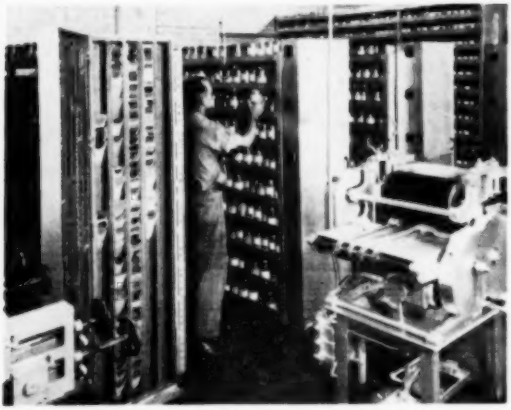
JANUARY, 1954

Industrial FINISHING

Published Monthly in the Interest of Product Cleaning and Painting by
Practical Publications, Inc., 1142 N. Meridian Street, Indianapolis 4, Ind.



Here, in this Lilly Control Laboratory, samples and standard panels of customers' previous shipments are retained for comparison with current production.

"Close enough"

would never measure up to LILLY Standards

The uniform high quality and dependability of all Lilly Industrial Product Finishes is no happen-so.

Quality control plays an important part in the production of Lilly products: VARNISHES . . . ENAMELS . . . LACQUERS . . . STAINS . . . and METAL LITHO COATINGS.

Every step in the manufacture of Lilly Industrial Product Finishes is carefully controlled to make certain that the coating is exactly right and meets every specification for its intended application.

No, "close enough" isn't good enough. It has to be just right to measure up to Lilly standards . . . a standard which is appreciated by manufacturers of quality products.

Lilly **VARNISH COMPANY** · **Indianapolis, Indiana**

AFFILIATED PLANTS AT GARDNER, MASS. AND HIGH POINT, N. CAROLINA

the things you can do with FLOW-COATING!

COMPARED TO DIPPING

- Flow-coating permits smaller material inventory.
- Makes material change-over much simpler.
- Provides better control of flow, leveling and material distribution.
- Permits higher-speed conveyor travel.

And to enjoy these advantages to the greatest possible degree, use

No. 4600F IC@FLO-COAT PRIMER.

It has velvety smoothness.

It is highly resistant to soaps, detergents and chemicals.

It may be used as a flash primer in a mono-bake system.

It does not float, silk, pit or crawl.

It provides superb enamel hold-out.

Developed especially for appliance manufacturers, No. 4600F Primer is winning enthusiastic acceptance because of its versatility in trouble-free production.

Call your nearest IC Finishes specialist for complete details.

Interchemical Corporation
Finishes Division

FACTORIES: CHICAGO, ILL. • CINCINNATI, OHIO • ELIZABETH, N. J. LOS ANGELES, CAL. • NEWARK, N. J. • MEXICO CITY, MEX.

In Canada, IC products are sold by AULCRAFT PAINTS LTD., Toronto, Ont., under its trademarks.

MIBC

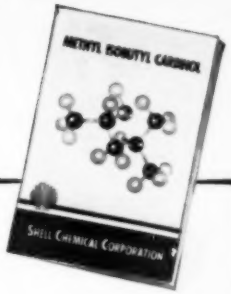
. . . an important member of the Shell "Quality Group" of solvents to help you produce better lacquers at lower cost . . .

Methyl isobutyl carbinol—companion *latent* solvent to the powerful Shell ketone *active* solvents—makes it possible for you to use greater quantities of low-boiling alcohols while maintaining good blush resistance, gloss and flow.

Blended with IPA to offset its slower evaporation rate, MIBC allows greater flexibility in formulation to meet the lacquer specifications of individual customers.

You can order MIBC with other solvents in compartment trucks or tank cars for short notice delivery at bulk prices.

The famous Shell "Quality Group" of solvents includes, among others, MEK, MIBK and IPA . . . preferred by the nation's leading formulators.



Write for this MIBC brochure and the Technical Bulletin, *MIBC As a Latent Solvent in Furniture-Type Nitrocellulose Lacquers.*

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FINISH... a part of the informality of the Alden Line by ST. JOHNS TABLE CO.

The Colonial Maple finish on the St. Johns' open stock Alden Line is light and cheerful to match the informal atmosphere of the American Colonial design. This finish is also rich in character and in quality.

Like so many of the outstanding and profitable finishes on fine furniture today, it was custom created in our studios to meet the individual needs of the customer in the most effective way.

The Better the Finish, the Better the Buy

GRAND RAPIDS VARNISH CORPORATION

GRAND RAPIDS, MICHIGAN

Makers of the Famous Guardsman Finish and Guardsman Cleaning Polish

JANUARY, 1954
Vol. XXX, No. 3

A monthly magazine for finishing room and paint shop foremen, production superintendents, chemists, purchasing agents and company executives of industrial plants where product surface cleaning and finishing are major operations in the manufacture of parts and products of all kinds.

Industrial FINISHING

W. H. ROHR, Editor P. C. BARDIN, Associate Editor

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Acceptance under Section 34.64, P. L. & R., authorized

Published
the 18th of each month by
PRACTICAL PUBLICATIONS
Incorporated
1142 N. Meridian St.
Indianapolis 4, Ind.
Telephone Plaza 6771

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30 THIRTIETH YEAR OF PUBLICATION

Packaging is Better. The Society of Industrial Packaging & Materials Handling Engineers, a national organization, recently held an exposition in Mechanics Hall in Boston. About 100 manufacturers of industrial shipping containers displayed their wares. Some of the advances in packaging outshone the products they contained.

Much study and research have been devoted to both materials handling and improved packaging to add convenience, identification and legibility; and to reduce packing time as well as minimize the possibility of damage in storage and in transit.

* * *

Toys, a Big Industry. The designing, manufacture and merchandising of toys is a really important industry. During the five or six weeks preceding Christmas an estimated 500 million dollars or more worth of playthings were sold by the nation's retailers, according to Melvin Freud, president of the Toy Guidance Council. This is about a 10% greater volume than in 1952. It is said that about 60% of the retail toy sales occur between Thanksgiving and Christmas. The year's volume is estimated at 900 million dollars.

* * *

Auto Trailer-Railroad Link. A newly developed aid for quickly moving loaded highway trucks on and off flat cars for long distance transportation, is a portable ramp. The ramp, of welded construction, is the largest single unit ever fabricated from magnesium, the lightest of structural metals. It is 45-ft. long and 9-ft. wide, but flares to 11-ft. at ground level. It weighs only 4800-lbs. The ramp moves on rubber-tired wheels and can be positioned by two men.—*Magnesium Company of America.*

* * *

Copper to Plastic Adhesive. A new "adhesive-clad-copper" process developed by Rubber & Asbestos Corp., Bloomfield, N. J., may provide the long-awaited answer to many of the problems that have curtailed wider use of the printed circuits for radio and electronic components.

The new adhesive, trade named R & A "plymaster," is supplied pre-coated on Anaconda electrolytic sheet copper and cut-to-size, with both the copper sheet and the adhesive application pre-inspected before packing. By making the material available in this

The new magnesium "Trailerramp" in service.

We Repeat *Again and Again and AGAIN!*

There is **no** better value **anywhere** for quality finishing than

No. 1450 PERMANENT WATER WHITE Lacquer
No. 1545 PERMANENT WATER WHITE Sealer

For those new, modern, light transparent fiinishes

or

No. 8800 HI-SOLIDS Lacquer (over 32%)
No. 1830 COMPANION SEALER

For full bodied, regular tones, used in conjunction with

DOLAN'S STAIN-FILL or TONE-FILL

THEIR REASONABLE PRICES WILL SURPRISE YOU!!!

Drums of each will be shipped, with a positive guarantee that you will find them **better** values than your present products or you may return the unused portion for **full** credit.

V. J. DOLAN & COMPANY, INC.

Manufacturers of "Unquestionable Quality"
INDUSTRIAL FINISHES
1830 N. Laramie Avenue Chicago 39, Ill.
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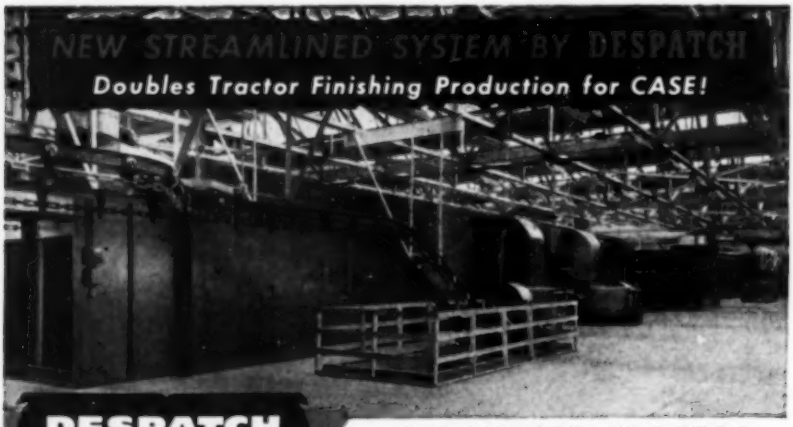


DESPATCH

A FINISHED TRACTOR *every 5 minutes!*

Tractor finishing at the J. I. Case plant, Rock Island, Ill., has been doubled and quality of finish raised to a new high with this modern finishing system designed, built and installed by Despatch. Housed in a new, well lighted building the system is giving Case tractors a rich, durable baked on finish in the familiar Case Flambeau Red. The operation includes washing, painting and finish baking.

1. 600-ft. continuous conveyor enters 3-stage washer where tractor gets a 160° F. phosphate wash, cold water mist bath, and 180° F. hot water rinse.
2. Tractors are spray painted in staggered water wash booths. Paint is heated to 170° F. —eliminates need for thinner and allows closer spraying to cut down overspray.
3. A lasting, weather resistant finish is baked on at 225° F. in this 96-ft. oven heated by steam from the Case central steam plant. Emerging from the oven, tires and other accessories are added.

Let Despatch Modernize Your Finishing Operations

Replace your obsolete finishing system with a modern Despatch system engineered to fit your needs. Increased production, higher quality and lower costs will result.

Write, wire or call Dept. E for details.

DESPATCH OVEN COMPANY

Minneapolis Office: 619 S. E. 8th Street

Chicago Office: 4554 N. Broadway

Sales Offices in all Principal Cities

manner, the manufacturer reports that the steps in the production of the base copper-clad-laminate for printed circuits are cut from eight operations to two operations.

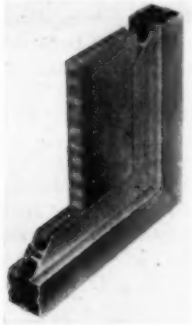
* * *

Caterpillar, 50 years. In 1954 Caterpillar Tractor Co., Peoria, Ill., will commemorate the 50th anniversary of the world's first practical track-type tractor. This anniversary dates back to the successful testing of the first practical crawler on Nov. 24, 1904 in Stockton, Calif., by the Holt Mfg. Co., one of Caterpillar's parent companies. The Holt Co. originated the trademark, "Caterpillar" at about the same time it made its first crawler.

Now there are about 340,000 track-type tractors of all makes working in many fields, exclusive of the military, in the United States alone.

* * *

Aluminum Partitions. Marketing of new lightweight insulated movable office partitions, which consist of aluminum-faced honeycomb-core panels and extruded aluminum structural members, is announced by Building Products, Reynolds Metals Co., Louisville, Ky. Called Reynowall partitions, they are available with or without windows.



The 1⅛-in. thick honeycomb - core panels which are used in the partitions consist of two outer sheets of embossed aluminum bonded with heat and pressure to a core made from resin-impregnated Kraft paper formed into a figure-eight honeycomb construction. They are claimed to be unusually strong and

POLYTONE

the 1 coat hammer with the 3-D look

Depth
Durability
Dependability

SEARLAC

It takes the feel of the finger to belie the illusion of dimension Polytone achieves. This fabulous 1-coat hammer can be baked or air-dried, and covers imperfections in one application. Available in Silver, Gold and colors. Send for samples.

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LOW COST!

- ASK FOR QUOTATIONS.
- FORMULATED TO MEET ANY SPECIFICATION.
- QUALITY AND UNIFORMITY GUARANTEED.

Specialists in Thinners for the
- LEATHER TRADE
- METAL ETCHING
- POLYSTYRENE PLASTICS

Shipped in Tank Cars, Tank Wagons, Drums or 5 Gal. Cans.

Low Cost Volume Blending and Drumming Service on Contract.

CLEAR LACQUERS

HIGH SOLIDS
NON-YELLOWING

for:
- FURNITURE
- BRONZE & BRASS
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- LEATHER & PAPER

Order 5 Gallon Can at Drum Price.

Working Sample Sent on Request.

Write or Phone for Prompt service and deliveries.

ELL-BEE CHEMICAL CO., INC.
HANOVER, N. J.
Phone—WHippany 8-0194

rigid in relation to their extremely light weight, to be highly effective as sound barriers, and to have good thermal insulation qualities.

The new partitions are easily adapted to conform to all usual floor, wall and ceiling irregularities.

* * *

Aerosol Products. More and more products are being sold to the retail trade in push button containers. Credit goes to the Kinetic Chemicals Division of The DuPont Co. who conduct dealer and consumer surveys on the use and acceptance of aerosol-dispensed products in alternate years as a service to the industry.

More than 45 different types of products are now being packaged in aerosol containers. This number will steadily increase in the future, due to the ease, convenience, control and economy of handling and applying products so dispensed.

This method of packaging and using liquid and semi-liquid products has enormous possibilities.

* * *

Aluminum Gutters and downspouts are becoming more popular because of their long lasting and non-rusting qualities. They cost a little more than the ordinary galvanized metal, but they last much longer.

As proof of their growing popularity for homes and industrial plants, one manufacturer sold 32 million feet of aluminum gutters and downspouts in the past five years.

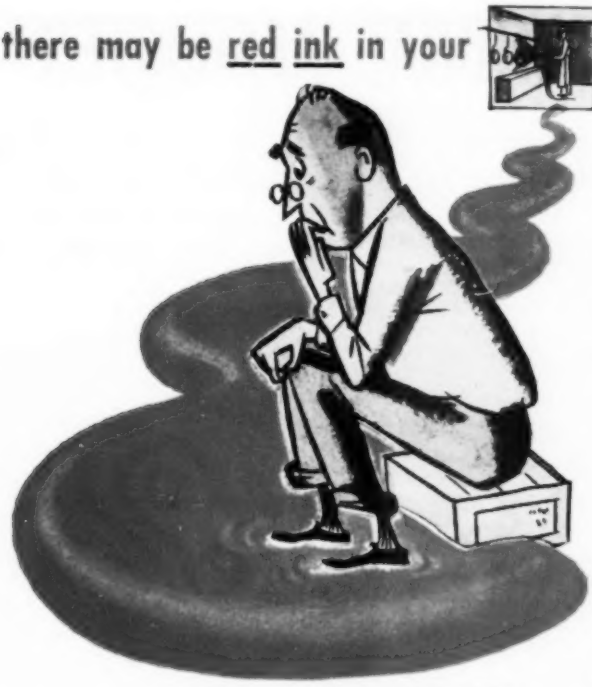
* * *

Protects Steel Structures. Light steel structures such as quonset huts should have a weather resistant coating. Small spots of rust may spread to shorten the life of the building.

To protect these buildings, remove loose scale, dirt, etc., with a wire

(Continued on page 122)

there may be red ink in your spray booths!



Are you losing money on neglected spray booths? Many plant owners are tracing the red ink in their balance sheets to spray booth extravagance. They find hundreds of dollars a day are being wasted because of production shut downs, more maintenance, unreclaimable paint and general booth operating troubles.

See us in Booth 232-234 at The Plant Maintenance & Engineering Show Chicago, Jan. 25-28

Learn how to CUT COSTS with **DuBOIS** SPRAY BOOTH MAINTENANCE

Here's what you get when you do business with DuBois:

1. Thorough analysis of your operations by trained and experienced personnel.
2. Installation of prescribed specialized compounds:
   KLARIFIANTS . . . water-wash compounds to effectively control overspray
   FILMITES . . . coatings for dry areas of spray booths
   STRYPP . . . for periodic purging of old paint deposits in the hydraulic system

FREE . . . authoritative reprint:

PROBLEMS OF SPRAY BOOTH MAINTENANCE

. . . . yours for the asking, a survey of the practical aspects of paint booth maintenance—how to save operating costs.

The **DuBOIS** *Co., Inc.*

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Serving Industry Since 1920

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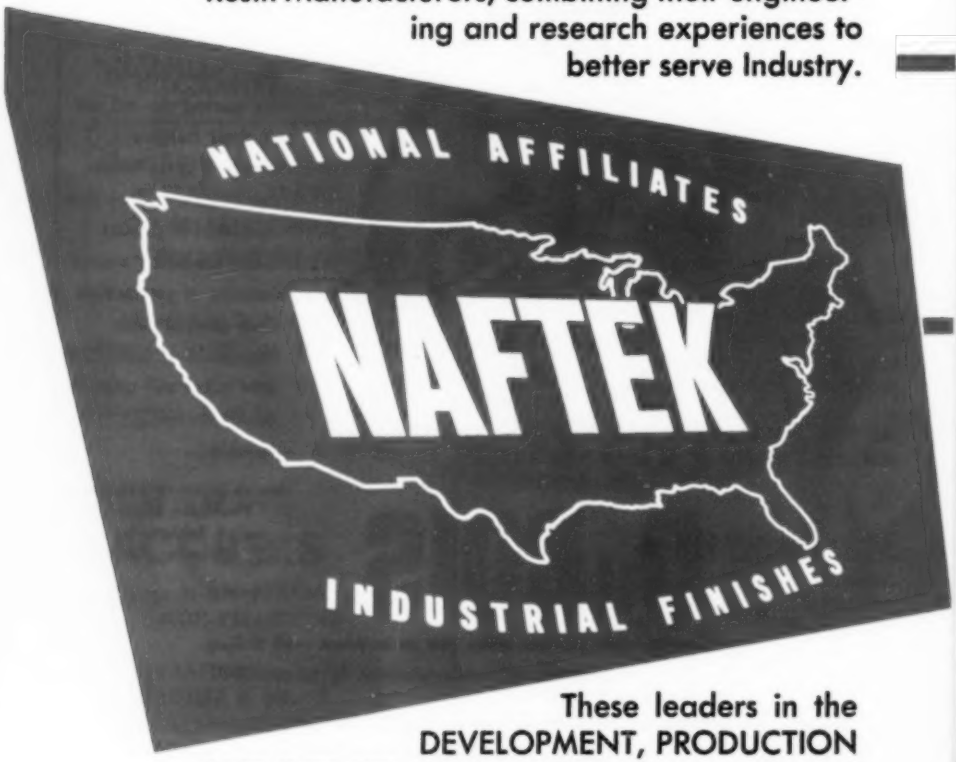
A Nationwide Affiliation of Paint, Varnish, and Resin Manufacturers, combining their engineering and research experiences to better serve Industry.

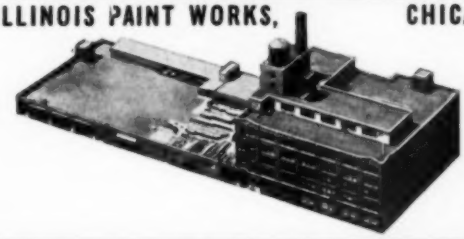


These leaders in the DEVELOPMENT, PRODUCTION AND SERVICE of Industrial Finishes are pleased to work with your staff on any protective coating problem—to develop *Specific Finishes for Special Requirements*—to aid in setting up and maintaining the proper production equipment—and to service actual production.

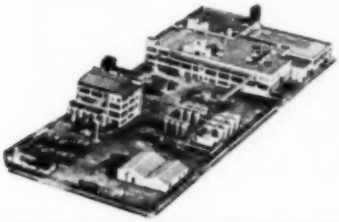
FOR FURTHER INFORMATION, SAMPLES, OR DEMONSTRATION...**WRIT**

BENJAMIN FRANKLIN PAINT AND VARNISH CO., PHILADELPHIA. PA.

ILLINOIS PAINT WORKS, CHICAGO, ILL.

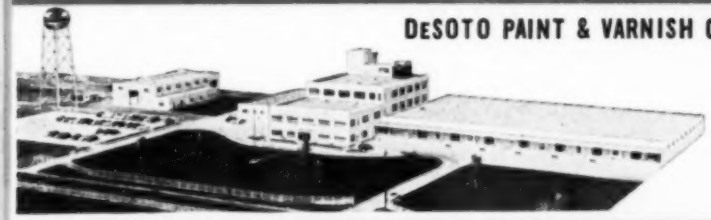


INDUSTRIAL FINISHES



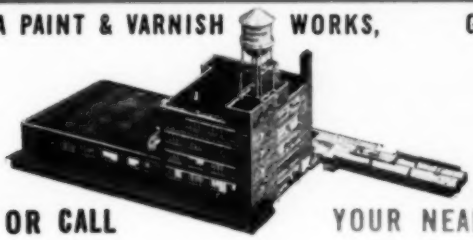
PACIFIC PAINT & VARNISH CO., BERKELEY, CALIF.

DESOTO PAINT & VARNISH CO., GARLAND, TEXAS



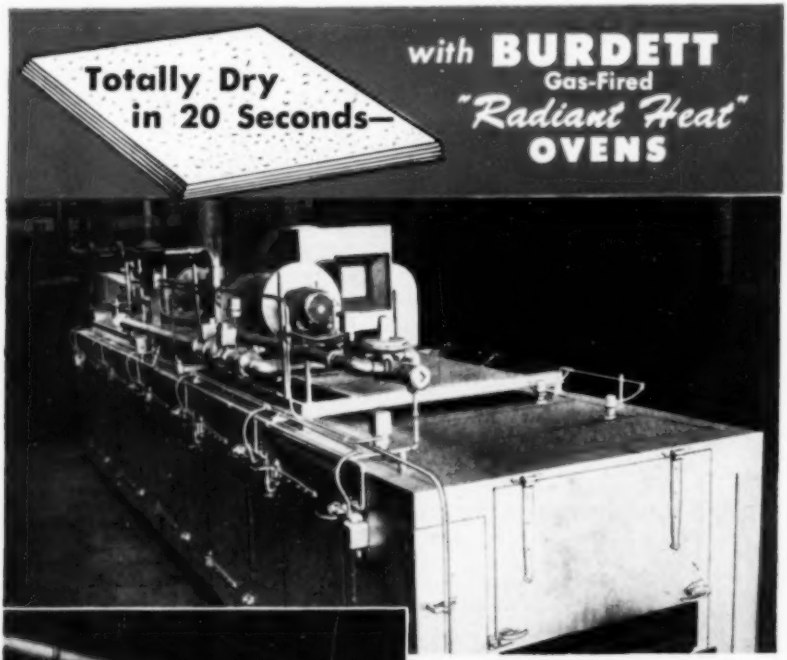
DeSoto

CAROLINA PAINT & VARNISH WORKS, GREENSBORO, NO. CAROLINA



Carolina

. WIRE... OR CALL YOUR NEAREST DIVISION MEMBER



THIS IS THE SURE WAY — to *speed your finishing production and cut costs to the bone.*

The application illustrated, is in a plant of a nationally known producer of acoustical ceiling and wall panelling. Wood Fibre Board (4' wide x 8' to 12' long) travels through automatic spray unit and Burdett "Radiant Heat" Oven on continuous slat conveyor at speeds ranging from 100' to 120' per minute, providing for only 20 seconds drying time of water soluble finish at 750°F. Board is totally dry in this short time cycle.

Let us show you how Burdett "Radiant Heat" will speed your production and slash costs—no obligation. It has been thoroughly proved in many industries for many years—It's here to stay!

BURDETT MANUFACTURING COMPANY

3425 West Madison St., Chicago 24, Illinois

Also Manufacturers of "Radiant Heat" Systems, Ovens, Heaters, Air Make-Up Units, Spray Booths and Washers

What COLOR means to CATERPILLAR!

Caterpillar DW21 Tractor and Scraper in workout at proving grounds of Caterpillar near East Peoria, Illinois. An R-M enamel has to be good to stand up here!

R-M Yellow works 4 ways for Powerful Road Builders

It is no mere chance that Caterpillar equipment is finished in bright, bold and durable R-M Yellow enamel. To be specific, R-M Yellow performs 4 different tasks for these hard working road builders: 1. As a *very durable enamel,* it prolongs product life; 2. as a *highly visible color,* it helps prevent accidents; 3. as a *bright color,* it draws the eye to Caterpillar equipment; and 4. as *a consistent color,* it promotes equipment sales through easier identification with the product name. R-M lacquers, enamels and undercoats are used on the finest passenger cars in America, on hard working farm and earth-moving equipment, on giant Diesel locomotives and many others. Ask us how an R-M color *can go to work for your product!*

Write for booklet on U.S. Government Specification Finishes

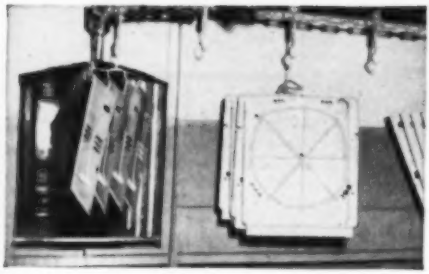
R-M
REG. U.S. PAT. OFF.

RINSHED-MASON CO.

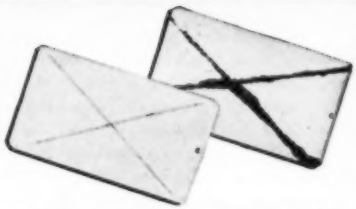
Manufacturers of fine lacquers, enamels and undercoats for leading products of industry.

5835 MILFORD AVE. . . DETROIT 10, MICH.
1244 N. LEMON ST. . . . ANAHEIM, CALIF.

Glidden Technical Service men find NU-PON panel in perfect condition after 1% detergent immersion test, a standard for establishing resistance of finishes to soaps and alkalies.



The excellent stability of NU-PON Primers makes it an ideal flow coating material. It can be collected and circulated again and again without deterioration.

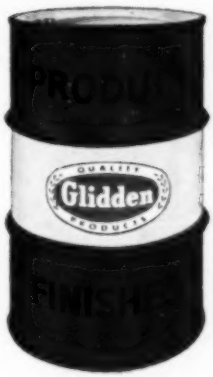


These panels were exposed to a 400-hour salt spray test together. The panel at the left, coated with a thin film of NU-PON Primer has not eroded while the modified alkyd film on the panel at the right has pitted and flaked off.

New NU-PONS Provide Superior Alkali, Corrosion and Moisture Resistance!

Remarkable resistance qualities. Superior durability. Excellent adhesion to various metals. These are the extras which have made NU-PON Primers and Enamels production favorites on the finishing lines of America's leading appliance and home laundry manufacturers.

NU-PON Primers are used wherever metal protection is required, and permit economies because NU-PON Primers can be flow coated, dipped or sprayed in film-thicknesses as low as 0.0003″. NU-PON Enamels provide one-coat or top-coat beauty, plus maximum chemical and corrosion resistance. Use NU-PONS together for lasting product beauty and production savings.



THE GLIDDEN COMPANY

INDUSTRIAL FINISHES DIVISION

11005 Madison Avenue • Cleveland 2, Ohio

SALES OFFICES AND FACTORIES:
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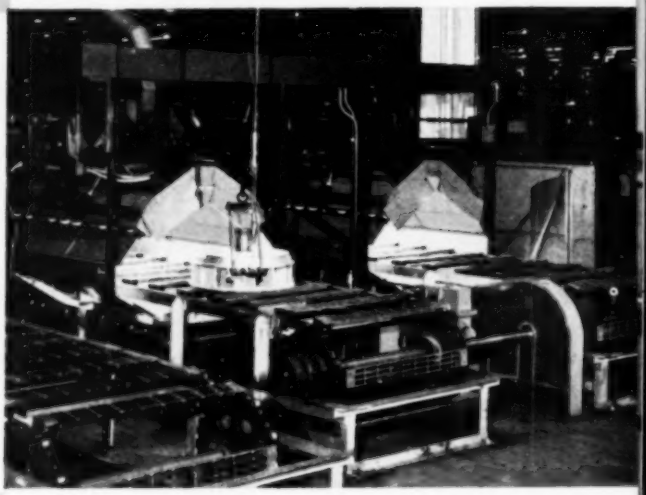
PUSH·BUTTON HEAT

CONTROLLED AND DIRECTED EXACTLY AS NEEDED FOR FINEST QUALITY BAKING

TYPICAL OF OVER 7,000 INSTALLATIONS

Pictured above is the Fostoria installation at the Studebaker aircraft plant in Chicago. Two 83 ft. ovens bake silicone aluminum paint on jet engine blades in one hour. After baking, a cool down chamber reduces the pieces to room temperature for handling in 30 minutes.



Profit WITH MODERN FOSTORIA OVENS

ALL THESE ADVANTAGES

Faster Cycles
Fastest heat transfer. Greatest output to input. Instant action.

Less Space
Most production for oven size. May be ceiling mounted.

Clean Operation
No by-products of combustion. No condensation.

Uniform Bake
Evenray heat distribution with thorough penetration.

Flexibility
Adaptable to any material, any shape, any color. Infinitely variable heat levels.

Safety Controlled
No warm-up, no shut-off lag. Instant heat control.

Less Maintenance
Lowest source replacement cost. Least efficiency loss.

Highest Efficiency
Less than 2% energy loss. Heats product—not oven walls.

Cuts Costs
Lowest "per piece" production cost. Competitive initial cost.

Reliability
Foremost engineering "know-how" and service.

The miracle of America's industrial progress is based on engineering ingenuity in building and using faster and better production equipment. The equipment of yesterday is obsolete today. New methods, new efficiency are the keys to business growth and profit. This is why plants everywhere are modernizing their baking operations with Fostoria ovens. Now, thoroughly proved in over 7,000 plants, anything that can be baked, can be baked better and more efficiently in the modern Fostoria oven. Here, today, is "push-button" heat, automatically controlled, wide in versatility, low-cost in operation, by far the most efficient of all industrial ovens. For the benefit of your production progress, compare Fostoria advantages with your present baking operation. On any baking problem, request the expert on-the-job assistance available to you by Fostoria field engineers.

THE FOSTORIA PRESSED STEEL CORP., FOSTORIA, O., Dept. I

Send for complete facts

Write for this brochure of technical facts and case histories of many Fostoria oven installations. Tell us your particular problem and we will include data directly applicable to your operation.

INFRA-RED fostoria OVENS

"Lacquers are our baby . . ."

"I've been thinking... ABOUT THIS PROBLEM"

It's good news to us when executives with finishing problems start thinking about quality and costs. They usually wind up by calling in The National Chemical & Plastics Co.

You see, we supply superior quality lacquers of all types, for every purpose, at competitive prices to some of the largest users in the industry—showing them the way to product improvement and production economy. We can do the same for you.

If you use lacquer finishes it will pay you to write, wire, or phone for an NCP representative. Do it today.

THE NCP National CHEMICAL AND PLASTICS COMPANY

1432 Philpot Street Baltimore 31, Md.

You're ahead **3 WAYS** *with*

KEM LUSTRAL® ENAMEL

Simplify the job . . . do away with need for many special enamels . . . get the benefit of volume production of highest industrial quality materials! If you use enamels for any purpose, or any product—wood or metal—KEM LUSTRAL's multi-usefulness may show a way to important savings.

Get the facts about this top-quality, versatile industrial enamel. It's one of a complete line of Sherwin-Williams product finishes especially developed to meet production-line requirements. Check the classified telephone directory for location of nearest Sherwin-Williams Branch—ask for brochure KL-511. Or write The Sherwin-Williams Co., General Industrial Division, Cleveland 1, O.

Services of trained industrial finish specialists available in your area through nearest Branch

"your on-the-spot" source for
PRODUCT FINISHES

SHERWIN-WILLIAMS
INDUSTRIAL FINISHES

Even alcohol, cleaning solutions or nail polish remover won't harm KEMVAR *finish.*

"ONE-WAY TRIP"

for O & M Furniture assured with KEMVAR

"Outperforms any finish we've ever used ... both in appearance and durability," says Olive & Myers Mfg. Co., Dallas, Texas, of the Sherwin-Williams KEMVAR® system.

"Three years ago we finished one of our leader sets with KEMVAR. Dealers were immediately enthusiastic. Results have been so gratifying that we now use KEMVAR on our entire line."

The company further reports that complaints and returns from dealers have been reduced to a minimum . . . too small to mention. In fact, business has steadily increased to the point that production capacity is now being doubled.

KEMVAR is a high-quality, polymerizing varnish-type finish coat of outstanding clarity. It provides an exceptionally hard, tough, chemical-resistant and wear-resistant finish approaching that of heat-set plastics. Drying speed compares with lacquer.

Ask your Sherwin-Williams Representative for a demonstration of KEMVAR. Ask him, too, about Sherwin-Williams identification tags and seals. Or write The Sherwin-Williams Co., General Industrial Division, Cleveland 1, Ohio.

SHERWIN-WILLIAMS

INDUSTRIAL FINISHES

LAB SUPERVISOR "AGITATING" FOR A QUALITY FINISH

Chester H. (Bud) Leopold, Supervisor of Ferbert-Schorndorfer's Industrial Laboratory, is checking the stability of a special dip finish for kitchen cabinets.

One of Bud's pet projects is dip coating. An authority on the subject, he spends a lot of time in the laboratory and in customers' plants, helping to solve many dip-finishing problems. He takes the scientific approach to such problems . . . trouble-saving in the lab reduces trouble-shooting later.

For example, under Bud's direction Ferbert-Schorndorfer technicians devised the midget dip tank illustrated. This unique apparatus simulates the agitation in a 3000 gallon tank and determines the stability of the paint in advance.

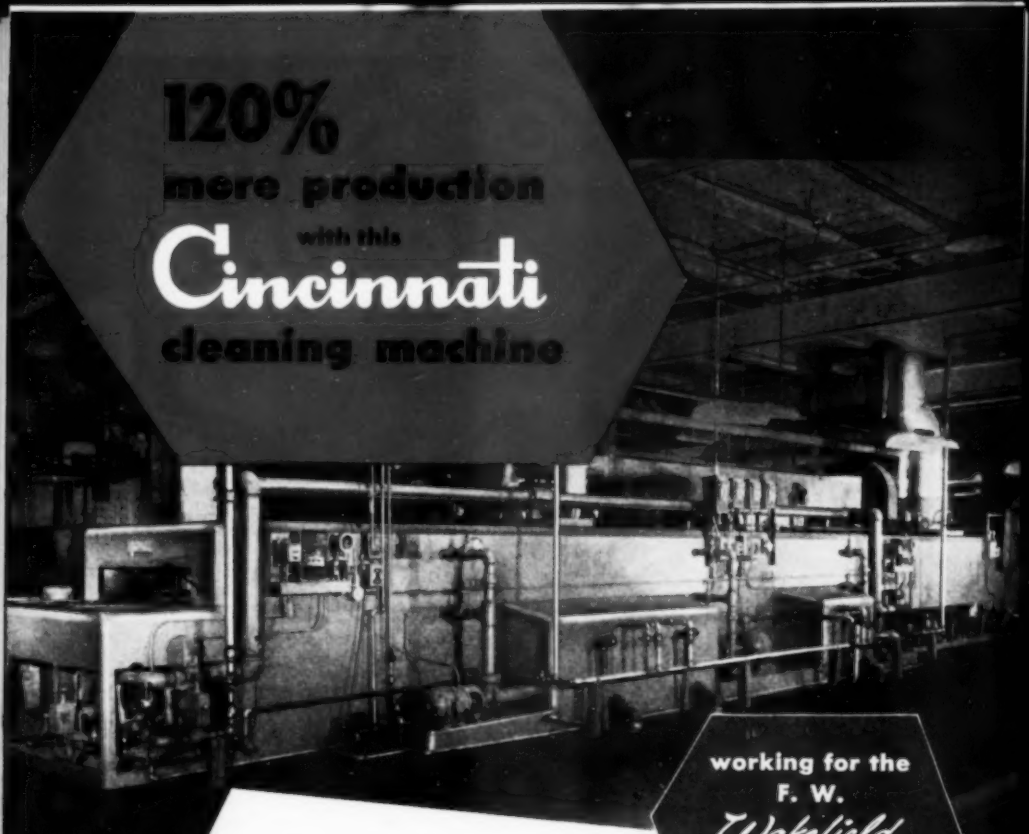
Bud is typical of the men who make the F-S wheels turn . . . the men who constantly "agitate" for quality, custom finishes. Why not put *your* finishing problems in the hands of F-S?

THE FERBERT-SCHORNDORFER COMPANY

A DIVISION OF AMERICAN-MARIETTA COMPANY

12815 Elmwood Ave. F-S **Cleveland 11, Ohio**

120% more production with this Cincinnati cleaning machine



working for the F. W. Wakefield Brass Company

Their CINCINNATI installation has upped cleaning production 120%, reports Wakefield. This manufacturer of lighting equipment states in addition . . .

"Actual cleaning time and phosphate treating time has been increased by 50%, producing maximum phosphate effectiveness."

Further savings are cited by Wakefield . . .

"Cincinnati's utilization of the hot gases from wash and hot rinse solutions for drying purposes results in a saving of 300,000 BTU's of gas per hour."

Cincinnati will show you how to effect similar improvements. No obligation . . .

THE CINCINNATI CLEANING & FINISHING MACHINERY CO.

2006 Hageman St., Sharonville, Ohio

"61"
Port-A-Belt
TRADE MARK
GRINDING
ATTACHMENTS

convert your portable tools into fast, efficient BELT GRINDERS

On every straight-spindle tool in your shop, you can "bring the abrasive belt to the work" with sturdy "61" PORT-A-BELT Grinding Attachments by CARBORUNDUM. You get versatility and economy unmatched by any other portable tool—fast, low cost grinding on *any* surface... even the awkward, hard-to-reach areas!

The four PORT-A-BELT attachments easily do contact wheel grinding on flat, convex or concave surfaces—and slack-of-belt grinding on flat, irregular or convex. One operation with PORT-A-BELT often replaces two or three with conventional finishing tools. Saves time, money.

Every PORT-A-BELT unit is equipped with CARBORUNDUM's famous "61" Contact Wheel, with its serrated rubber face. When used with CARBORUNDUM® Brand Abrasive Belts, these contact wheels give you smooth, cool, rapid cutting . . . without bounce or chatter. Belts last up to twice as long because they don't load up as fast.

PORT-A-BELT Grinding Attachments are precision-made, sturdy enough to take more than normal shop abuse. There's nothing to get out of adjustment!

YOUR CARBORUNDUM DISTRIBUTOR OR SALESMAN will show you how to convert your straight-spindle grinders into fast, efficient belt grinders. He's listed in the yellow pages under "Abrasives." Or, if you prefer, send the coupon.

THE CARBORUNDUM COMPANY
Dept. IF 82-41, Niagara Falls, N. Y.

Yes! Send folder and prices on PORT-A-BELT Grinding Attachments to:

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COMPANY

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REGISTERED TRADE MARK

...continually putting more sense in your abrasive dollar!

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TOUSEY

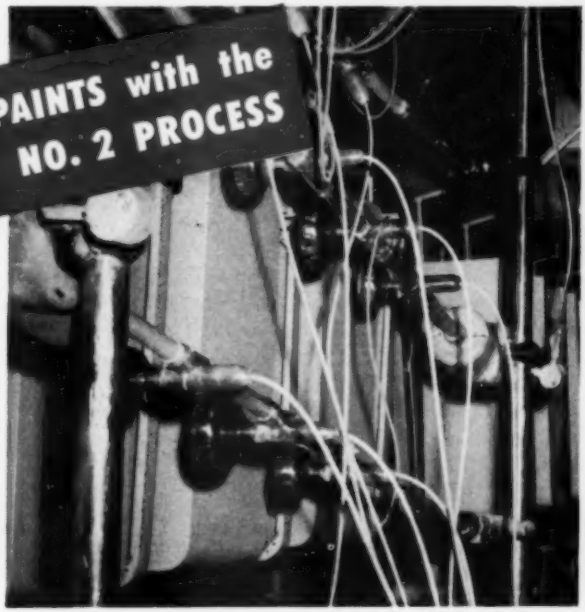
producers of fine finishes

Uniformity in quality and color is a most important operation in the manufacture of fine finishes at Tousey. No economy is allowed to take the place of accuracy. There is no "near enough" or "almost right." Strict adherence to high manufacturing standards is a must. For more than 69 years Tousey's policy has been to install the newest and most accurate equipment for the creating of fine finishes. . . . Laboratories, production lines, storage facilities, all are kept at top peak efficiency at all times. For the finest paints, varnishes, lacquers or synthetics specify Tousey finishes.

TOUSEY VARNISH COMPANY

520 W. 25th Street Chicago 16, Illinois

HOTPOINT PAINTS with the RANSBURG NO. 2 PROCESS



One of two stations applying finish paint with No. 2 electrostatic spray in the new, Chicago plant of Hotpoint Co., Division of General Electric. Ransburg's bunching conveyor, with indexing in between paint stations, is used to properly space cabinets, doors, and inner door liners in the electrostatic coating areas.

● It's significant that the first completely new refrigerator plant in 20 years chooses the modern way—the RANSBURG NO. 2 PROCESS—to meet the exacting, high quality standards demanded in the finishing of HOTPOINT REFRIGERATORS.

Today, both large and small industrial plants all over the nation—and abroad—are relying upon the Ransburg No. 2 Process to provide higher efficiencies . . . increased production . . . uniform high quality painting at a fraction of former finishing costs.

RANSBURG

Want to know more about the unmatched efficiencies of the Ransburg No. 2 Process? Write for our brochure describing the No. 2 Process in detail and showing numerous, on-the-line examples of varied installations in factory finishing departments.

Ransburg ELECTRO-COATING CORP.

INDIANAPOLIS 7, INDIANA

Custom Painting of Truck Cabs and Chassis

BY H. E. JACKSON

FREIGHTLINER Corporation of Portland, Oregon, builds heavy-duty but light weight cab-over-engine trucks in a well equipped modern truck manufacturing plant. The Freightliner is a subsidiary of Consolidated Freightways, one of the largest trucking operations in the nation, and a large portion of its output goes into the Consolidated fleet, operating in 11 western states. Of last year's production of 251 units, 130 went to Consolidated. The remainder were made to order for customers of the White Motor Co., dealer for the White Freightliner.

The White Freightliner van-hauling trucks that roll out of the new factory (completed in May 1952) at Swan Island, near downtown Portland, are fabricated as much as possible from lightweight metals, chiefly aluminum. Drive axle housings, front and rear hubs, spring hangers and, of course, the truck cabs, are aluminum. Freightliner is even experimenting with aluminum brakedrums with steel inserts. This extensive use of aluminum, coupled with a custom operation, presents a number of problems to the finishing department.

Custom Jobs Call for a Variety of Materials

Freightliner trucks are made to order, and the customer may specify any color combination or number of colors he desires. He may also specify the brand of paint to be used. An order sometimes can involve a bit of detective work. One customer merely sent in a painted surface with the colors he wanted. It was up to Freightliner to track down the correct paint numbers.

A new paint specification sheet is made up for each order; this pro-

vides a description of each finishing job, along with a listing of brand, number and color of paint used. A record of each order is kept so that a paint job may be duplicated for any additions to the customer's truck fleet.

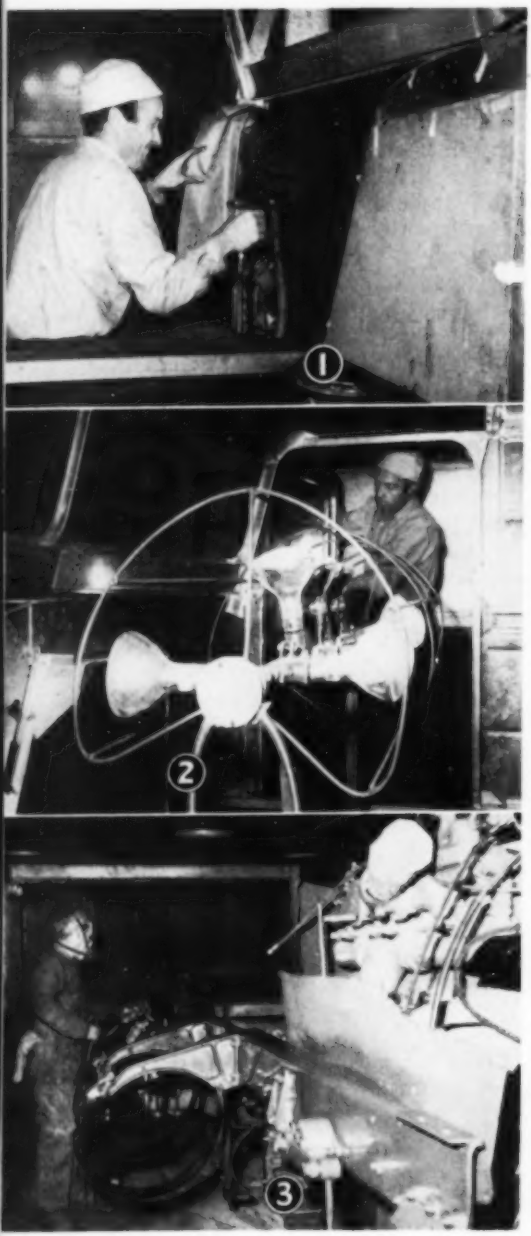
This, of course, amounts to custom-painting. The spray painters can't establish or follow any standard number of passes, or use the same air pressure all of the time; there are too many variations in the paints and colors and thinners used.

Large Spray Booths, Clean Filtered Air, and . . . .

The spray painting is done in two spray booths. The smaller one, located on the chassis assembly line, is used for spray painting the chassis, wheels, fuel tanks and small parts. It is 30x10-ft., with a 7-ft. vertical clearance. The larger booth, in the cab department, is 40x20-ft., with a 16-ft. clearance. Here cabs are finished and it is here that the chief finishing problems arise.

Each spray booth has a ventilating system through which, during actual spraying, air flow is maintained—at a 100-ft. per minute velocity for the large booth and 85-ft. for the small booth. Air entering each spray booth is drawn through a battery of glass fiber filters that make up one end wall of the booth, and it is pulled out at the other end through two vertical ducts and then through a stack extending up

U-shaped production line for cabs; base of U is in background where you see closed booth.



through the roof. This one-directional air flow enables a cab in the foward end of the booth to be sprayed while preparatory work is in progress in the cab behind, with no danger of overspray damage. Compressed air for the paint guns comes from the plant compressor system. The air line has a separator which automatically removes any moisture, oil or dirt in the line.

Cleaning; Tack Rag Wiping; Underseal; Masking

Preparatory work for finishing cabs begins just outside the paint booth, as completed cabs come off the assembly line. Here the surfaces of cabs are sanded with a portable air sander, then blown clean with an air hose and finally wiped with tack rags to remove any dust or minute particles loosened by the sanding operation.

Masking comes next. Areas to be masked are wiped with a rag saturated with lacquer thinner for better adhesion of the tape. Most masking is required on the inside of the cab, where an undercoat of rubberized underseal has been sprayed on those areas that are not to be painted.

The entire cab is then wiped clean with rags moistened with lacquer thinner, wipped dry, then gone over again with an acid-base

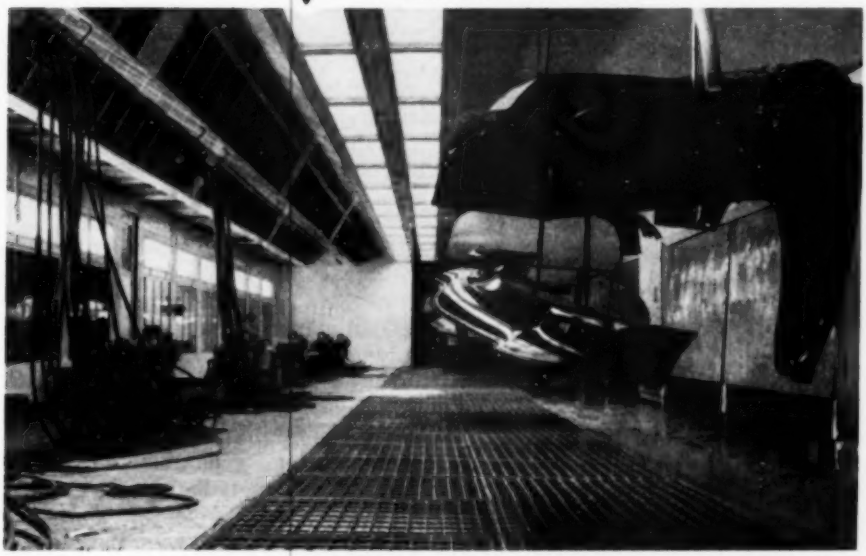
1. Undercoating part of a cab interior.

2. An infra-red unit set up inside of cab to dry out all traces of moisture (cleaning fluid) from seams, cracks, etc., after the cleaning and before painting.

3. Spray painting chassis in the smaller of the two booths. The lower part of engine is shielded by heavy paper board.

ERIKSON *builds to your requirements*

80 FT. CONVEYORIZED SPRAY BOOTH WITH TEMPERED AND FILTERED AIR SUPPLY



The **ERIKSON MANUFACTURING COMPANY** of El Monte, California, is a Pacific Coast owned and operated firm of designers and builders of PAINT SPRAY BOOTHS, AIR WASHERS, GAS FIRED FUME INCINERATORS AND FLOW COATING MACHINES for western industries. In addition to long experience in the research, design and development of air pollution corrective equipment, Erikson engineers have a wealth of specialized knowledge of the particular needs of Pacific Coast industries. Weather conditions and plant designs peculiar to the west coast are factors which must be taken into consideration for economical and efficient operation.

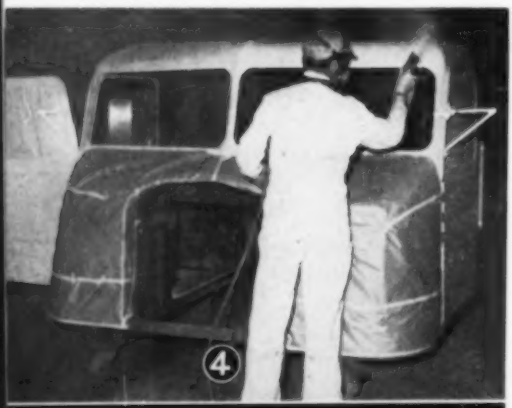
Erikson products are engineered to the exact requirements of the customer. No attempt is made to adapt standard models to meet specifications. Each installation is carefully planned for the best performance obtainable at the lowest possible cost consistent with quality workmanship and materials.

The hundreds of Erikson units in operation up and down the west coast are proof of the confidence placed in the Erikson Manufacturing Company by important industrial concerns as well as by branches of the state and federal governments.

ERIKSON MANUFACTURING COMPANY

P. O. Box 552, El Monte, Calif. Phone CUmberland 3-3735

Paint Spray Booths • Flow Coating Machines • Air Supply Systems



solvent for additional cleaning and etching of the surfaces. This solvent is allowed to remain on the surfaces for about one minute; then it is wiped off with dry rags. The surface is then air-hosed, cleaned with plain water applied with cloths, and gone over twice with tack rags to remove the last possible trace of dust. The rapid oxidization of aluminum makes necessary this extreme care to obtain an ultra-clean surface to which paint will adhere permanently.

A unit of ten 375-watt infra-red lamps is clamped to the inside cab frame. These heat lamps are allowed to stay on for 20 to 30 minutes to dry out all traces of moisture. After a final wiping with tack rags the surface, inside and out, is ready for spraying the primer which is a light coat on zinc chromate. Because of aluminum's great coefficient of expansion, a flexible primer of this type is considered to be the most satisfactory.

After the primer coat has dried, the surfaces are again wiped with a tack rag. If the painting is to be a one-color job (it seldom is) there is no further masking. (The windows and grab handles on all models are masked by one man while another applies the undercoat.) The cab interior is painted first.

When two or more colors are used on the outside, the nose is painted first. When dry, it is covered and the rear half is painted. Infra-red drying lamps are used again at this

4. Cab is masked for a 2-color paint job.

5. Removing masking paper after painting.

6. Painted cab rolls out of booth on dolly.

Aliphatic Petroleum Naphthas
Alcohols and Acetates
Aromatic Solvents, Petroleum and Coal Tar
Chlorinated Solvents
Glycols and Amines
Ketones and Ethers
Naval Stores
Oils and Fatty Acids
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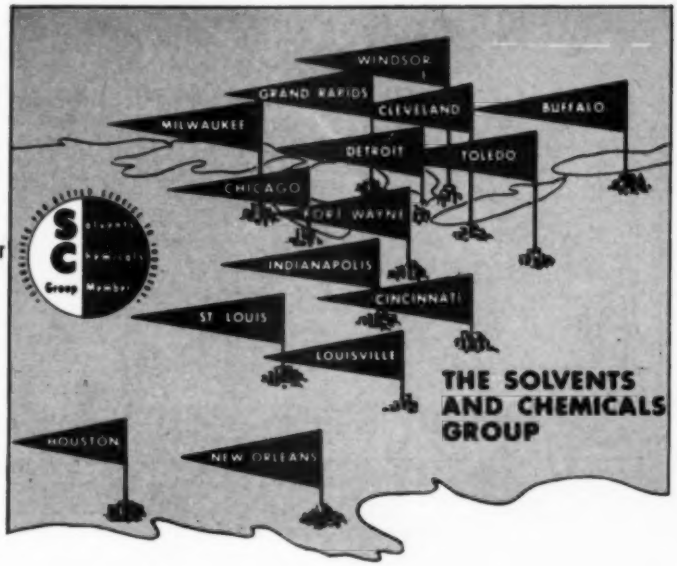

WHAT YOU WANT . . . WHEN YOU WANT IT . . . WHERE YOU NEED IT

ONE CALL DOES IT ALL!

With just one phone call you get the solvents and chemicals you need, in the quantities you require . . . through fifteen different service locations.

Reduce inventories by ordering just the amount you need in drums, tank-wagons, transports, or tank cars . . . and reduce paper work because there's just *one order, one invoice, one delivery,* and *one payment.* What's more, in many instances, orders for several products can be combined to give you even greater savings.

Each Group Member has technically trained men familiar with problems in industries they serve. Each member maintains laboratory facilities and is free to call for additional help from the technical departments of its nationally-known principals.

Investigate this modern, time-saving, money-saving service. Call your nearby member of the Solvents and Chemicals Group or write . . .

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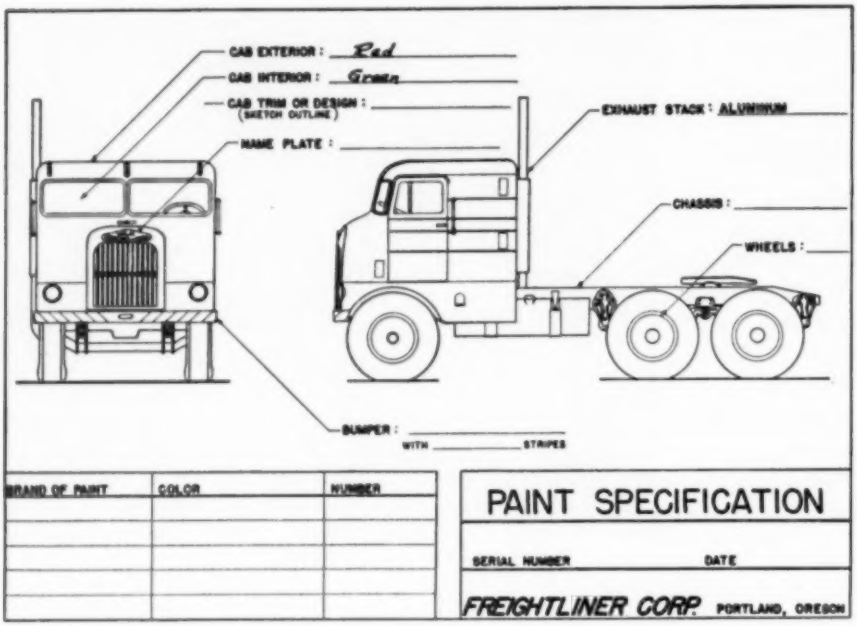


Paint specifications are made out on forms like this and then blueprinted for shop use.

stage to speed up the drying. There are endless possible variations in stripes, and some jobs are finished off with a decorative stripe of Scotchlite reflector tape across the cab nose.

Cabs; Workmen; Spray Guns; Cleaning Guns and Booth

The standard cab is roughly 7½-ft. wide, and measures about the same in height and length. Sleeper cabs which feature a bunk compartment either behind the driver's seat or above it, run much larger. The average cab can be cleaned, undercoated and given its primer coat in three hours, by two men. Length of time for the finishing coat varies greatly, of course, depending on the number of colors used and the amount of striping to be done. Generally two or three cabs are in the paint booth at the same time. As one moves out, another comes in.

Five spray guns are used in the cab paint booth, one for spraying primer and four for colors. All spray guns are thoroughly cleaned with lacquer thinner after each painting. After a finished cab has been removed from the spray booth the floor is swept; when all cabs are out the fan is turned on to pull out any dust that may be present.

Operations in the other spray booth, on the chassis assembly line, follow much the same pattern as in the cab spray booth. A chassis is brought into the booth with the

Cleaning Specialists*

* [SPE'CIAL·IST—One who devotes himself to some special branch of activity.]

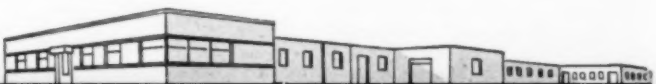
At Northwest our "special branch of activity" is solving your cleaning problems.

Behind your friendly, competent Northwest Sales Engineer stands a reputation for providing industry with low-cost, analytically-correct, job-adjusted chemical cleaners.

From Northwest's years of experience in formulating the RIGHT cleaner for your specific needs have come such developments as the LO-HI pH PROCESS—for cleaning prior to plating, painting, or vitreous enameling; ALKALUME PROCESS—for preparing aluminum and magnesium for finishing and spot welding; INTERLOX PROCESS—for phosphate coating; SPRA-LUBE—to control over-spray of "today's" paints in water wash paint booths; PAINT STRIPPERS—specific to your needs; SUPER-DRAW & FLUID FILM—for drawing metals.

Remember—YOUR COST PER FINISHED ARTICLE IS THE TRUE COST OF YOUR CLEANER.

Northwest's production-tested chemicals and "Right the first time" recommendations will save you money. Northwest Service is as close as your phone.



LO-HI pH

NORTHWEST CHEMICAL CO.

9310 ROSELAWN DETROIT 4, MICH.

pioneers in pH cleaning control serving you since '32

engine already installed. Little masking is required here since everything but the engine is painted. Cardboard shields are set up around the engine to mask it during painting. Here the metal cleaning requirements are not so exacting, since the frame is of steel. And, of course, there is no great demand for a variety of chassis colors.

Care is taken, after painting, to protect the finish during the remaining operations of assembling the truck. During cleaning and painting, the cab has rested on a special four-wheeled frame or dolly. It is pulled out of the paint booth and left on the frame or transferred to a wheelless frame while it receives its final finishing touches. Then it is lifted off the frame with a one-ton hoist which has special arms and chains for holding the cab securely without marring the painted surfaces. The cab is then lowered onto its deck which, in turn, rests on a four-wheeled frame.

After being bolted together, the cab and deck assembly is pushed to the adjacent truck assembly line where another hoist lifts it off the frame and lowers it onto the painted chassis. By the time the truck reaches the end of the assembly line for lubrication and final servicing checks, the cab-deck unit still looks as though it had just come out of the paint booth.

Industry is tightening its belt to meet the increased competition. This means that now many concerns will be doing more product designing and redesigning to improve quality and to reduce costs.

At end of assembly line the cab-deck looks as though it had just come out of spray booth.

A *LOT MORE* THAN FANS, DUCTS, HEATERS, AND PANELS

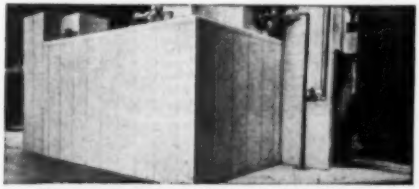
GO INTO

LANLY
FINISHING OVENS

● The proper adaptation and utilization of the essential component parts in every LANLY OVEN for maximum operating efficiency and economy, is a certainty being demonstrated every day in factories throughout the country. Specialized knowledge evolved from long experience and close cooperation with our customers enables us to design and erect better finishing ovens.

LANLY FINISHING OVEN Completely automatic LANLY A-Type Continuous Paint Baking Oven. Compact, built-in heating system affords rapid, uniform baking. Natural hot air seals at open ends. Space under oven can be utilized to advantage.

Two Continuous Laydown Dryers



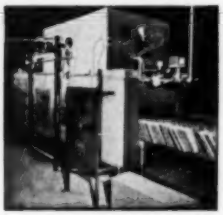
Three-Pass Oven with Air Seal Vestibules

Vertical Hollow Ware Dryer

Ceiling Suspended Continuous A-Type Paint Oven

LANLY
FINISHING OVENS
THE LANLY COMPANY • 760 PROSPECT AVE
CLEVELAND, OHIO

Continuous Wicket Type Oven

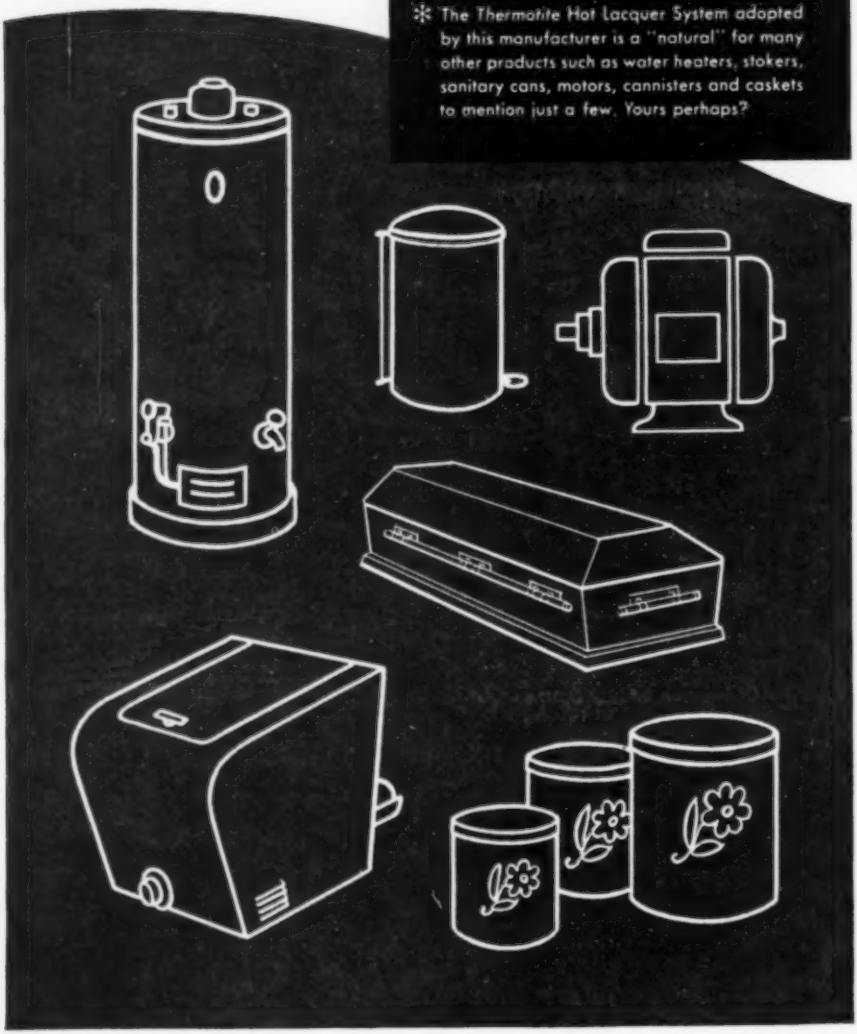


Write for the NEW LANLY CATALOG

Lowe Brothers *THERMOTITE*

Eliminates 2 handling operations

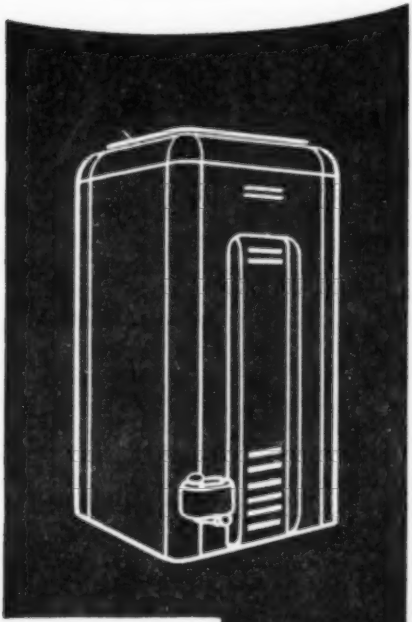
✻ The *Thermotite* Hot Lacquer System adopted by this manufacturer is a "natural" for many other products such as water heaters, stokers, sanitary cans, motors, cannisters and caskets to mention just a few. Yours perhaps?



solves production bottleneck

by cutting drying time 600%

This manufacturer of gas and oil furnaces was using a finishing system which produced highly satisfactory results from every standpoint of gloss, adhesion, appearance and durability. It was necessary, however, to move finished parts from the line to a storage place for an hour's drying time before handling and packing—a costly production bottleneck. A Lowe Brothers "Finishing Specialist" recommended *Thermotite* as a means to eliminate this bottleneck yet retain all of the desirable characteristics of the finish used previously.



NOW, with *Thermotite*, parts are dry, ready for packing within 9 minutes! Packing is done just as pieces leave the production line. No extra handling, no moving, no special storage, no costly bottleneck—just big savings!

BUT MOST IMPORTANT, the "hot application" method recommended by Lowe Brothers "Finishing Specialist" produces a finish with every desirable characteristic of the former system—good build, excellent adhesion, one coat application and a tough, durable high gloss film, free of marring!

MANY manufacturers have found it most profitable to have a Lowe Brothers "Finishing Specialist" check their finishing operations for possible improvement based upon thorough knowledge of the latest in modern systems and materials. How about you? No obligation—write today!

THE LOWE BROTHERS COMPANY • Dayton 2, Ohio
Industrial Division

This advertisement is based on facts from Lowe Brothers industrial case history files.

LEADERSHIP THROUGH CONSISTENT SERVICE

Lowe Brothers
FINISHES FOR INDUSTRY
since 1870

Finishing System for

MAGNESIUM

BY HUGO A. BARBIAN
Technical Service and Development
Magnesium Department, The Dow Chemical Co.

IS MAGNESIUM THE tough finishing problem some people think it is? To answer that question, I'd like to explore 1) the requirements for finishing magnesium, 2) finishing systems currently used, 3) service experience of magnesium finishes, and 4) new developments for finishing magnesium.

Basic Requirements for Finishing Magnesium

The first consideration for finishing any metal is to make the surface free from contamination. This is necessary for best finishing results and for maximum corrosion resistance. Magnesium may have several types of contamination which must be eliminated. Soils may be removed from the surface with conventional vapor degreasers and alkaline cleaners. An alkaline cleaner of the heavy duty type, designed for steel and with the pH above 11, is satisfactory for magnesium.

Magnesium sheet products may have mill scale or heavy metals rolled into the surface. This contamination should be removed with acid pickles for maximum corrosion resistance. Any acid pickle that will remove 0.0005-in. of metal per surface is acceptable, but the aceticnitrate pickle has been found best. Sheet products may be purchased from suppliers in this pickled condition.

Sand blasting of magnesium castings increases the corrosion rate, therefore, the blasting should be followed by an acid pickle. It is common practice to perform this operation in the foundry before the shipment of a casting to the customer. Any acid pickle that will remove 0.0002-in. of metal per surface will serve to remove the effects of blast-

Note: The author wishes to acknowledge the assistance of Paul Filter of the Dow Public Relations Department and J. S. Kirkpatrick and associates of Brooks and Perkins, Inc.

ing; the 8% nitric- 2% sulfuric or 2% to 3% sulfuric acids are the most commonly used. Chemical treatments like Dow No. 17* or HAE† remove such surface contamination and sand blasting effects in processing and thus require no previous acid pickle.

Kill Alkaline Surface and Make it Accept Paint

Magnesium surfaces, like zinc surfaces, are naturally alkaline. To retard the formation of free alkali at the surface of the metal, a chromate-containing treatment, such as Dow No.'s 1, 7, 8, 9, or 10 should be selected. Certain primers that are compatible with alkaline surfaces can be used on bare magnesium with good adhesion. These primers contain vinyl, epichlorhydrin-bisphenol, or polyvinyl butyral resins.

Another basic consideration concerns the use of a chemical treatment for paint adhesion. This is a common practice for all metals. Paint adhesion can be obtained mechanically on magnesium with such treatments as the Dow No. 1 chemical treatment. In a treatment of this type, a selective etching makes a "tooth" into which the paint is locked.

Paint adhesion can also be obtained by absorption. The anodic treatments for magnesium such as Dow No. 12, No. 14, Manodyze, No. 17 or HAE are coatings that will absorb paints, oils, greases, and other such materials very readily. It appears that the Dow No.'s 8, 7, 9 and 10 coatings also hold paint by absorption.

A significant phase of magnesium finishing calls for good design and protection of dissimilar metal joints. This becomes especially important where equipment is used in salt-containing environments like sea coast sites or under the bodies of automobiles, buses and trucks. In these cases, improper design can lead to galvanic corrosion.

Precautions to Prevent Galvanic Corrosion

I'd like to explain galvanic corrosion as simply as possible. In a flashlight, zinc or magnesium metal corrodes and produces light. This is a type of galvanic corrosion. In a water heater, a magnesium rod corrodes and protects the steel tank. This is a common and well-known welcome type of galvanic corrosion which is done deliberately to increase the life of the steel tank.

In fabricated assemblies, where magnesium is coupled to another metal, the magnesium may corrode and protect the dissimilar metal, producing an undesirable type of galvanic corrosion—a type which must be guarded against. This galvanic corrosion is likely to occur only when an active electrolyte contacts the dissimilar metal union.

Examples of Design When Using Dissimilar Metals

Proper design to eliminate undesirable galvanic corrosion calls for certain steps: 1) protecting the

*Patent applied for.

†HAE is an electrolytic treatment for magnesium to give corrosion resistance and favorable paint adhesion qualities. The three letters HAE are the initials of the inventor, Mr. Harry A. Evangelides, its discoverer, an electro-chemist in the Pitman Dunn Laboratory at Frankford Arsenal, in Philadelphia, Pennsylvania.

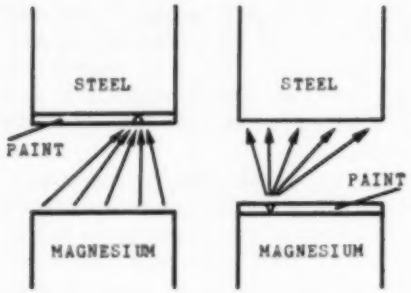


Fig. 1—As soon as the paint film becomes perforated, corrosion begins and continues.

cathode (dissimilar metal) as well as the magnesium by the use of moisture impervious films, such as vinyls. This is illustrated in Fig. 1. Also shown in the left hand figure, the steel member is coated with a film, and no galvanic corrosion occurs. As soon as the film becomes perforated, corrosion proceeds. In the case illustrated by the figure, a large area of magnesium corroded sacrificially protecting a very small area of steel. In this case, the corrosion on the magnesium was of a superficial type and not harmful.

In the diagram on the right, the opposite situation is illustrated. As long as a perfect protective film remains on the magnesium, no galvanic corrosion occurs. When the film ruptures and the two metals are joined by an active electrolyte, galvanic corrosion will occur. In this case, the very small area of magnesium must protect a large area of steel and hence the corrosion is of a penetrating type which will eventually lead to perforation of the member.

Therefore, where corrosion is a real problem, the use of essentially non-porous coatings on magnesium (chemical treatment or paint) should be avoided unless they are applied to the dissimilar metal as well. It has been a common failing in field work to put more and more protection on magnesium because it appears that the magnesium is the member which is corroding and needs protection.

Another factor in proper design which tends to reduce the incidence of galvanic corrosion is the use of dissimilar metals that are compatible with magnesium. These metals are:

Aluminum.....52S, 53S, 56S, 61S, and 63S.

Steel, Brass, etc.....Use zinc or cadmium plate.*

These metals can be used as washers, shims, fasteners and structural members.

Proper design of magnesium structures calls for the use of non-absorbent tapes or sealing compounds in joints. This is illustrated in Fig. 2. In the first case, a dissimilar metal angle is riveted to a piece of magnesium sheet. As long as the 56S rivet is used, no galvanic corrosion is encountered on the magnesium side of the assembly. A tape or sealing compound is used between magnesium and the dissimilar metal, with at least $\frac{1}{8}$ to $\frac{1}{4}$-in. overlap so that bridging of the electrolyte cannot occur.

In the example at the right in Fig. 2 the dissimilar metal is bolted to a magnesium plate. In this case, in a severely corrosive environment, corrosion can be encountered between the cadmium plated bolt and

*Retards galvanic corrosion but does not prevent it.

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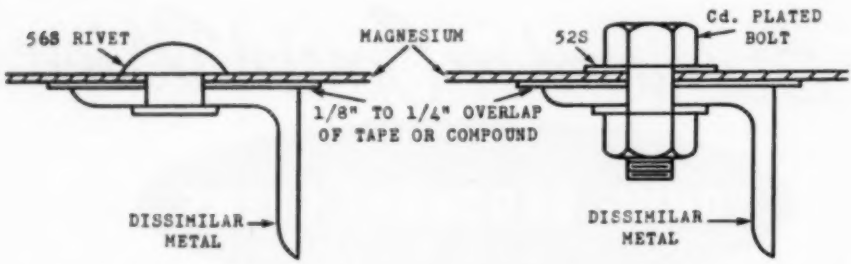

Fig. 2—Non-absorbent tape or sealing compound between magnesium and other metal.

the magnesium. For best results a 52S aluminum washer should be used under the head of the bolt. The cadmium plated washer can be used directly against the dissimilar metal.

Another means of reducing galvanic corrosion is by use of electroplated magnesium. A copper-nickel-cromium system eliminates the potential difference between the magnesium and the dissimilar metal and thus eliminates galvanic corrosion. This method is especially applicable to small parts.

Finishing Systems Currently Used on Magnesium

There are five main finishing systems currently being used on magnesium parts.

1) Producer's paint base treatment. A typical example of this system is the use of Dow No. 1 or chrome-pickle treatment on magnesium die castings or truck body sheet and extrusions. Here the magnesium supplier applies the chemical treatment before selling the product. The customer performs minor cutting and drilling operations and then applies an organic finish directly to the chemical treatment.

2) Bright metallic finish. This finish can be obtained with the Dow No. 15 treatment on wrought products or the Dow No. 16 treatment on cast products. The bright metallic finish is used primarily for sales appeal and shelf life. Wax or clear lacquers may be applied for additional finishes.

3) Black Chemical Finishes. The Dow No. 8 and Dow No. 9 treatments are used primarily where black chemical finishes are desired on surfaces which will receive no subsequent organic finish.

4) Electroplating. The use of electroplated magnesium has not been so widespread in recent years, primarily because of the nickel shortage since the Korean crisis. Last year several production products were electroplated and we expect the use of this finishing system to grow.

5) Paint base treatment. This is one of the most widely used, and is differentiated from the producer's paint base treatment in that this chemical treatment is applied by the fabricator after all fabricating operations are completed and immediately before application of the organic finish. Treatments that may

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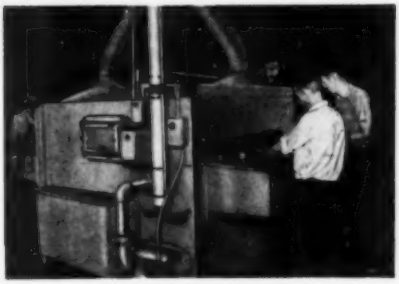

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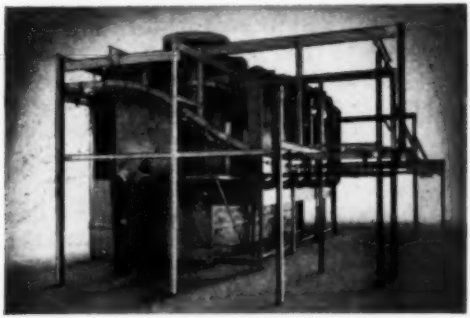

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be used are Dow No.'s 1, 7, 8, 9, 10, 12, Manodyze, No. 17, HAE and Iridite No. 15. Of these, the Dow No. 7 is the most widely used.

Serviceability of Magnesium Finished Parts

Producer's Paint Base Treatment. Several commercial products which have been given the producer's paint base treatment and an organic finish have been in service for many years. Some of these are automotive parts with 15 years of service. The parts are primarily die castings which have been given a chrome pickle by the die caster and a coat of baked enamel by the automobile manufacturer. On parts such as convertible hardware, which are exposed to the elements, a coat of primer was included in the system.

Chairs of various types have been in use for over 15 years. These chairs included a baked enamel system over Dow No. 1. Other chairs have been produced in quantity for more than five years with excellent serviceability.

Truck bodies using magnesium sheet and extrusions have been in use for over 15 years and have been produced in quantity for seven years. Finishing practice here generally consists of the application of primer and lacquer over the Dow No. 1 applied by the supplier. In some cases, where corrosion conditions are more severe as on the under side of the truck body, an undercoating is applied. In general, the finishing requirements for magnesium are quite similar to those of other metals used on these truck bodies.

Dockboards fabricated of magnesium have been in service for seven or eight years. Most of these boards have been sold in the bare condition. A few were given a wash primer plus a lacquer, or the phosphate touch-up plus lacquer for sales appeal.

Bright Metallic Finish. The bright finish has been used on magnesium ladders for over five years and on hand trucks for over two years. We normally expect that these parts will remain bright for about a year, but many of the ladders are still very attractive after considerably longer use. In the case of ladders and hand trucks, no wax or lacquer film is applied after treatment.

Black Chemical Finishes. Binoculars and camera parts requiring the black chemical treatment show excellent stability after ten years of service. The black treatment, without an organic finish, is applied to the inside for best optical effects. The outside is given a conventional baked wrinkle finish or covered with leatherette.

Electroplating. Satin chrome finishes have been applied to die cast portable saw parts for five years. Serviceability has been excellent. In this case the satin chrome finish was selected to match the brushed finish applied to aluminum die castings on the saw.

Paint Base Treatment. As was pointed out earlier, the paint base treatment is the most widely used. Time does not permit an extensive coverage of the serviceability of systems employing it. We can glance at a few of the more prominent applications. The airplane, B-36, one

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of the largest applications, has been in use for more than seven years. Serviceability has been excellent, and although there have been some finishing troubles, proportionately, these troubles have been minor.

Hundreds of pieces of electronic equipment have been manufactured and placed in use over the past five years. Some of these include computer cases which received the Dow No. 7 treatment plus zinc chromate primer plus baked black wrinkle finish. A reflector for electronic equipment received a Dow No. 7 plus zinc chromate primer plus a black lacquer.

Test Bench; Bakery Cabinets; Recording Machines

The telephone test bench was finished with Dow No. 7 plus primer plus black or grey wrinkle. The teletypewriter case received the same treatment except for an olive drab final finish, and the PRC-6 (Handie-Talkie) received a similar treatment. Extensive serviceability data are not available on these parts, but to date we have not heard of any complaints that might rule out the use of magnesium in these applications.

A few commercial applications have been covered before. Among others is a bakery delivery cabinet that has been in use 4½ years. This new cabinet received the Dow No. 1 treatment initially without further treatment. This cabinet is cleaned frequently in an alkaline cleaner which probably removes most of the Dow No. 1, so the product has been used essentially in the bare condition.

Recording machines have been an excellent application for magnesium die castings, as light weight is of primary importance. Serviceability of the magnesium has been excellent. We recently reviewed the complaints of one manufacturer and found that in the few cases where some corrosion had been noted on the magnesium parts, the exposure had been extremely severe and that other metals on the same unit had corroded to such an extent that in many cases this corrosion interfered with the operation of the unit. In no case did magnesium corrosion interfere with the functioning of equipment. Finishing systems used are either Dow No. 7 plus primer plus baked enamel, or Dow No. 7 plus primer-surfacer plus lacquer.

These serviceability data indicate that 1) magnesium can be finished properly to do the intended job, 2) a variety of acceptable finishes is available, and 3) proper design is important for maximum corrosion resistance.

New Developments for Magnesium Finishing

New Chemical Treatment. During the past several years much progress had been made in the development of new chemical treatments for magnesium alloys. At least two new magnesium anodizes, the HAE treatment and the Dow No. 17, have been developed. In addition, Allied Research Inc., of Baltimore has announced a surface conversion coating known as Iridite No. 15 (Mag-Cote). Dow has also developed the phosphate touch-up treatment for the repair of damaged surfaces. [*Cont'd on page 48*]

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Anodizes

The new magnesium anodizes are sufficiently similar to warrant discussing them together. The HAE treatment is formed in an alkaline bath and is light tan to brown in color. The Dow No. 17 is formed in an acid bath and is light to dark green in color. I'd like to go over the two treatments in a little more detail.

Advantages of Anodizes

1) Uniformity of application. The high voltage, up to 110 volts, used in either of these treatments assures uniformity of application. Non-uniformity of coating has been one of the chief problems in magnesium finishing. Many of the surface conversion coatings are good paint bases and show excellent corrosion resistance when properly applied, but most of them require very close control in order to insure the desired uniformity. Even if these anodizes show no other advantages over the surface conversion coatings, their uniformity of application would be a sufficient improvement in magnesium finishing to warrant large usage.

2) Excellent corrosion resistance. Much has been said about the excellent corrosion resistance of these anodize coatings. We have all heard of salt spray resistance greater than 10,000 hours with waxed panels. The corrosion resistance is dependent, of course, on alloy composition, metallurgical state and various other factors. Nevertheless, in almost all cases noted the corrosion resistance of magnesium alloys is increased many fold by using either of these two new anodizes.

3) Surface cleaning features. We have pointed out the detrimental effects on corrosion resistance of rolled-in contamination in sheet and sand blasting on castings. These effects are eliminated by using the anodizes because the coating forms underneath the surface contamination and removes it. Undoubtedly this surface cleaning is largely responsible for the increased corrosion resistance noted, inasmuch as premature failures of magnesium surfaces often have been traced in inadequate cleaning of the surface.

4) One step treatment. To the magnesium finisher who has been plagued with numerous chemical treatments and so many tanks for various chemical treatments, as well as pre-pickles and post treatments, the new anodizes offer much, for *they are essentially one-step treatments.*

All good finishing requires alkaline cleaning and water rinse to move excess soils. After being cleaned the parts are immersed in the anodizing baths and coated. Other than rinsing and drying in the normal manner, no further treatment is required. The acidic nature of Dow No. 17 insures good paint adhesion. In some cases HAE has utilized a hydrofluoric acid post treatment where parts are not painted, but in general no post treatment is necessary.

5) Excellent paint adhesion. The new anodizes are very absorbtive. When paints of low viscosity are chosen and allowed to be absorbed into the coating, excellent paint adhesion is obtained and retained over prolonged exposure periods. These organic coatings, when absorbed in-

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to the film, will tend to lock the particles of the anodize coating on the surface of the metal.

6) High temperature stability and fire resistance. During the anodizing process the coating is formed at local points where sparking occurs. At these local points very high temperatures are encountered so that the coating itself is stable above the melting point of the magnesium.

It has been demonstrated that metal treated with these new coatings can be heated with a blow torch until the metal inside the coating actually melts and swells without damage to the coating. Furthermore, with the Dow No. 17 coating, when the molten metal finally does reach the air through a scratch in the coating, there is a marked tendency for the metal to resist ignition. This feature will be important in electrical equipment where resistance to ignition under shorting conditions is a requirement.

7) Minimum bath control. The new anodic treatments will apply uniform coatings over a wide range of electrolyte composition so even with depletion of the bath satisfactory coatings are obtained. At least 20-sq.ft. per gallon may be treated with the baths before adjustment must be made. Other baths require adjustments after less than 2-sq.ft. per gallon have been treated.

8) Resistance to some chemicals. The new anodic coatings, on magnesium, show resistance to many acids and other chemicals so that new fields for magnesium are being opened up.

"New man, came directly from Los Alamos"

Disadvantages of Anodizes

1) Special racking. These magnesium anodizes like others require special racking. On the other hand, such racking has not affected the use of anodic coatings on other materials like aluminum.

2) Spalling of coatings. These magesium anodizes form a hard ceramic coating which will spall (crack, chip or break) from the surface of the panel on the compression side. As indicated earlier, certain paint materials can be absorbed into the coating and lock it in place, making it resistant to spalling, even on compression. The vinyls are especially good in this respect. Furthermore, the thin magnesium anodizes may be used on products subject to flexing. With these coatings there is only a minor spalling problem. [*To page 52*]

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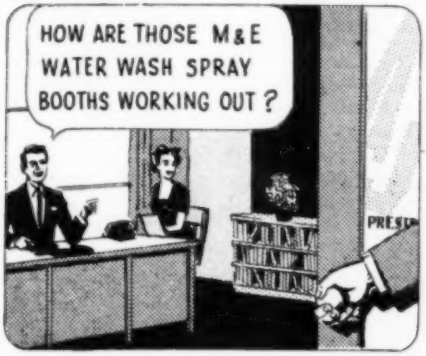

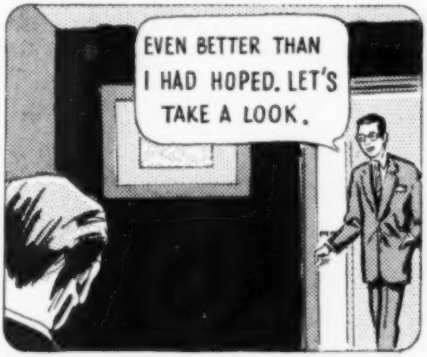

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TREATMENTS:

Dow #17 Treatment:

ELECTROLYTE:	Ammonium acid fluoride Sodium dichromate Phosphoric acid Water
OPERATING CONDITIONS:	
Current density:	5-50 amps/sq. ft.
Time:	1-30 minutes
Temperature:	160°-180° F.
Voltage:	Up to 110 volts AC or DC

HAE Treatment

ELECTROLYTE:	Potassium Hydroxide Aluminum Hydroxide Tri Sodium Phosphate Potassium Fluoride Potassium Manganate Water
OPERATING CONDITIONS:	
Current density:	Variable, 15 amps/sq. ft. preferred
Time:	60-90 minutes at 15 amps/sq. ft.
Temperature:	75°-85° F.
Voltage:	Up to 100 volts AC.

TEST RESULTS ON DOW #17 ANODIZE

20% salt spray	Dow #17 plus paint—24 hrs. to failure Dow # 7 plus paint— 600 hrs to failure
Humidity test	Dow # 17 no corrosion—3 months Dow # 7 25% corrosion—3 months Bare 100% corrosion—3 months
Paint adhesion	Dow #17 very good
1 yr. weathering	Dow # 7 fair to good.

Details of two surface treatments applied to magnesium—and the results of same.

These test results show the superiority of the Dow No. 17 anodize over the surface conversion coatings such as Dow No. 7 currently used. The HAE coating developed by Frankford Arsenal was not classified until the spring of 1953. Up to that time we did not have an opportunity to evaluate this coating. Nevertheless most of you are interested in how Dow No. 17 and HAE compare. Our tests have started but are not complete; nevertheless some conclusions can be drawn.

1) Most properties of the coatings are the same. We have shown an increase in corrosion resistance, resistance to humidity and excellent paint adhesion of the Dow No. 17 treatment. We would expect most of the coating characteristics to be the same for HAE.

2) HAE is considerably more abrasion resistant than Dow No. 17. This is especially true as the alloy content of the magnesium product increases. Where abrasion is a problem we certainly recommended

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inclusion of HAE in any test program.

3) Dow No. 17 offers more fire resistance. Tests of the type which might be run by Underwriters Laboratories to determine if magnesium is suitable as a case for electrical equipment reveal that the Dow No. 17 coating retards ignition significantly.

4) Dow No. 17 requires only one-quarter to one-fifth the current or time to apply that HAE requires. We think this is a most significant difference. HAE requires about 1300 to 1400 amp-min/sq.ft. Such difference in operating time and current should be reflected in lower costs in most job shop installations.

5) Heat given off during anodizing in a well-loaded tank requires cooling and possibly refrigeration of the HAE bath in order to maintain operating temperatures below 100° F. In the case of Dow No. 17 this heat, at best, will only maintain the operating temperature of around 160° F.

Iridite No. 15 (Mag-Cote)

The Iridite No. 15 has been developed by Allied Research Inc., of Baltimore. It is a room temperature treatment involving immersion of the part for from one to two minutes. On FS1 alloy it deposits a dark brown coating similar to the Dow No. 7 treatment. The short treatment time at ordinary room temperature makes it a really promising treatment.

Paint adhesion and exterior corrosion data are not complete but they do indicate that the paint adhesion may not be as good as that obtained with Dow No. 7. Chloride ion contained in the bath necessitates careful rinsing and this is probably the most critical step. If the chloride ion is not rinsed completely from the magnesium part, blistering of the paint films in high humidity tests may result. It has been demonstrated, however, that the Iridite coating can be rinsed adequately.

Phosphate Touch-up Treatment

Much finishing difficulty on magnesium has been experienced with chrome pickle touch-up treatment. To date this is the only one on the approved list. Proper application of the chrome pickle treatment requires continuous wetting during application, followed by adequate rinsing. Where the treatment is improperly applied poorer paint adhesion may result than if no coating were applied.

Most phosphate treatments do not form suitable paint bases on the magnesium alloy. The treatment listed here is one developed fairly recently by the Dow Metallurgical Laboratories. It is a good paint base but is not quite as protective as the chromate containing baths. On the other hand, if paint adhesion can be maintained the paint will supply the protection.

Bath Composition: Ammonium Dihydrogen Phosphate; Sodium Silicofluoride: Ethyl or Methyl Alcohol; Water.

Operating conditions: Time: ½ to only one minute; dip or brush. Temperature: Room.

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1 This estimate came from a manufacturer of precision steel parts after 6 months use of Oakite Special Protective Oil to prevent rusting.

2 From a customer who uses Oakite Composition No. 95 for conditioning zinc-base die castings before plating.

FREE Our booklet "*Some good things to know about Metal Cleaning*" describes efficient Oakite materials and methods for tank and machine cleaning, electrocleaning, preparation for painting and many related operations. Write to Oakite Products, Inc., 32F Rector St., New York 6, N. Y.

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Technical Service Representatives Located in Principal Cities of United States and Canada

from some areas. Generally, touch-up treatments are not as good paint bases as dip treatments. In order to insure good results on the whole part, adequate paint adhesion must be obtained on the bared areas. Primers that adhere to bare metal or poorly treated metal surfaces are a necessity.

Polyvinyl Butyral, non acid type. Several manufacturers have developed proprietary materials which do adhere to bare metal. These materials contain polyvinyl butyral as well as other resins. These types have excellent alkali resistance when baked. Paint adhesion is always improved with the use of a chemical treatment, even if that chemical treatment is not of the most protective type.

Wash primers. Wash primers are also of the polyvinyl butyral type but contain phosphoric acid. They have exhibited good adhesion to bare magnesium and excellent adhesion to chemically treated magnesium. In some cases the wash primer has attacked the magnesium, with the formation of hydrogen in the paint film showing up as blisters. Indications are that the acid and water content of the primer must be held to a low level, with the acid being no higher than 1% in the spray gun. Some work is being done on the development of a wash primer under government contract and we trust that we may have an answer to this problem soon.

Epichlorhydrin-Bisphenol types: These primers are the most protective and best adhering for magnesium. In the past, the fact that they had to be catalyst converted or

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baked was somewhat of a disadvantage. New air-dry types are now available and are being tested. We have no results yet.

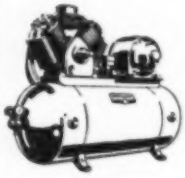
We hope we have given you a complete picture of magnesium finishing in its present state and a glimpse of the new developments. Magnesium finishing in the future should be a rapidly expanding field, for the large volume of magnesium now being sold will justify efforts of others. For example, in chemical treatments much work is being done at Frankford Arsenal, where the HAE and other magnesium anodizes are being developed, and at a chemical paint company where efforts are being made to find an Alodine treatment for magnesium; also at Allied Research where Iridite No. 15 was developed, and at Dow where we hope to continue our contributions to the finishing field.

In the field of organic finishing there is a great deal of activity that will bear fruit in the next few years. There are at least six military contracts covering the development of new primers and finish coats which will lead to better adhesion, better corrosion resistance, one-coat systems and so on. It is also evident that increased sales of magnesium are stimulating activity in the private paint companies because we receive more requests for test panels every day. Through the efforts of both commercial and government agencies we will be in a better position to produce better products of magnesium.

DeVilbiss helps Argus save $1,660 a

20% DROP IN REJECT RATE — *Small wonder Ralph Parsons, Foreman of the Paint Shop at Argus Cameras, Inc., is pleased as he examines the lamp housing from one of the new "300" projectors. The rich, wrinkle finish is applied with DeVilbiss spray equipment.*

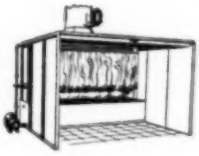
20% SAVINGS IN SPRAY MATERIAL *on this beautiful Argus C-Four.*



Air Compressors

Hose and Connections

Spray Guns



Spray Booths

year in painting single camera part

Argus Cameras works with DeVilbiss Production Service to increase production, reduce rejects, save time and material

Argus Cameras, Inc., Ann Arbor, Michigan, is well known as one of America's leading manufacturers of fine camera equipment. Recently, starting production on their new "300" projector, they found unit labor costs and rejects were running too high in the paint shop.

Argus called in DeVilbiss Production Service. An on-the-job analysis of the entire Argus painting operation was made and specific recommendations for improvement were given. The results were eye opening:

> A savings of $1,660 a year on direct labor cost for painting a single camera part. A savings of 48% in actual spraying time on another part. A savings of up to 20% in spray material for individual parts. A drop in rejects of 20% on the projector lamp housing.

There were other benefits, too. Workers respected the DeVilbiss expert. He held training classes and showed ways to improve their spray painting technique. And six months later, *their efficiency was still on the rise!*

DeVilbiss helps you get the *most* from the spray method. If you have a spray-painting problem, DeVilbiss will help you solve it. Service doesn't stop – it just *begins* when you order DeVilbiss equipment. For full information, contact your nearest DeVilbiss jobber, branch office, or factory.

48% SAVINGS IN SPRAYING TIME— *Lacquer spraying time was cut in half by using automatic spray setup.*

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Installation for Painting
J. I. CASE TRACTORS

This installation, completely conveyorized, includes an automatic washer, two water-wash spray booths, hot spray, paint baking oven and cool-off area.

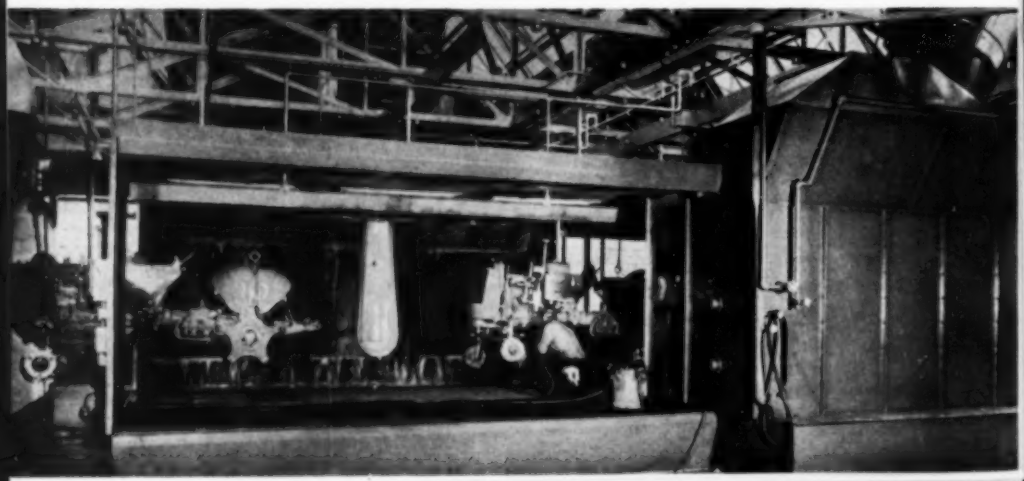
A NEW PRODUCT painting system installed last year for the J. I. Case Company at Rock Island, Ill., includes an automatic washer, a dry-off area, two water-wash spray booths, a paint baking oven and a cooling and tire mounting area.

Assembled tractors, minus the tires, are delivered to the loading zone where they are hooked to the overhead chain conveyor. Next to each tractor are placed the engine hood and other small parts to be painted and subsequently mounted on the tractor at the far end of the finishing line.

The speed of the 600-ft. continuous conveyor can be varied from 1½ to 4½-ft. per minute. When operating at full capacity, the system can turn out as many as 96 tractors in eight hours.

The first operation on the line after the tractors leave the loading zone is a thorough cleaning which takes place automatically as they move through a 2-stage steam heated washer. Upon leaving the wash-

Partial view of two 18-ft. "staggered" water-wash spray booths where the work is spray painted as it moves slowly past spray operators, while hanging from overhead chain conveyor.



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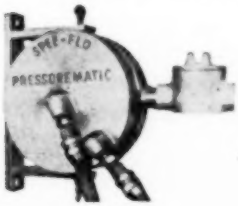
. . . regardless of humidity or room temperature!



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Please send me information on your line of hot spray heaters best suited to our work. Type of products being finished.....
Application is conveyorized..... turntable..... mobile..... other.....
Average volume of material per gun per hour.....
Type of material..... Please have representative call.....
Name .....
Company .....
Address .....
City ..... State .....

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Egyptian Lab Technicians use this modern equipment, the Conical Mandrel Tester after each drying period to evaluate the distensibility of the finishing system they specially formulate for your product.

Most organic coatings when freshly applied are fairly flexible. The purpose of the Conical Mandrel Tester is to help determine the degree of flexibility retained after aging.

Now, your experienced, capable Egyptian Lab Technician takes over to interpret this scientific test data into a finishing formula ideally suited for your product ... he has the "Know How" that can put flexibility or any other specified characteristic into your finishing system and keep it there ... **another reason why ..."it's better because it's EGYPTIAN."**

Invite an Egyptian Industrial Finishes Specialist to talk over your finishing problem. No obligation of course.

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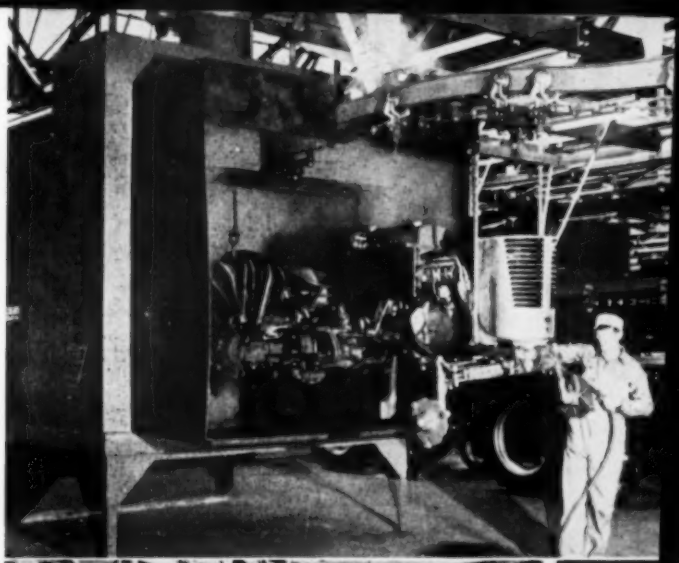
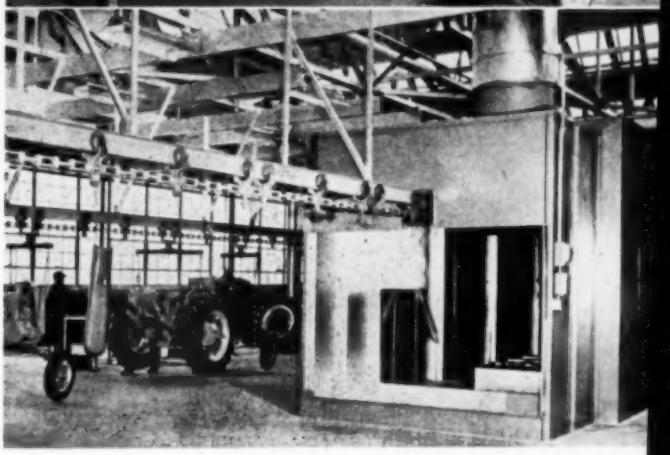


Exit end of washer; the workman is using a gun attached to compressed air hose to blow off moisture that remains entrapped in or on cleaned parts.



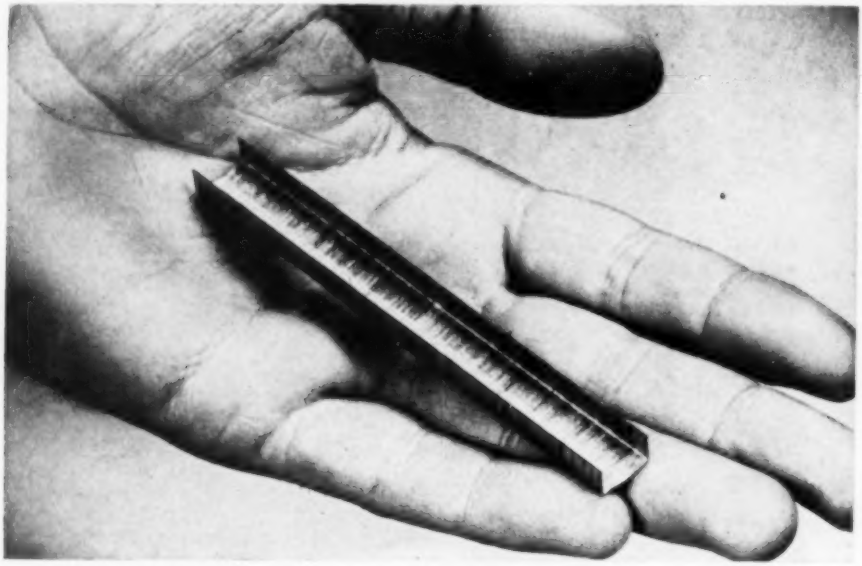
Exit end of paint bake oven and unloading station where painted parts are removed from conveyor.

er, the tractors move into an open area where all surfaces are blown dry manually, with compressed air. The necessary masking is also applied in this area.

The tractors next pass through two 18-ft. staggered water wash spray booths—one on each side of the conveyor line. Water settling tanks extend out under the conveyor and these are covered with a metal grating. J. I. Case Co. uses hot spray in spraying the paint at a temperature of 170° F.

After leaving the spray booth, the tractors enter a steam heated finish bake oven which operates at a temperature of 225° F. The oven bake chamber is just 83-ft. long, with 5-ft. and 8-ft. entering and leaving vestibules. [END]

Editor's Note: Facts and photographs for this story furnished through courtesy of Despatch Oven Co.



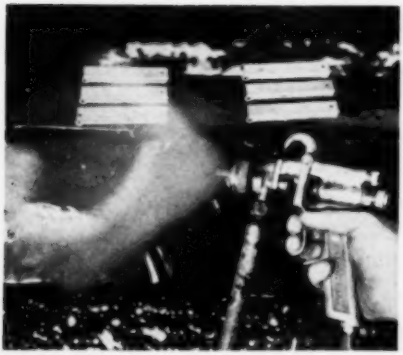
A SPECIALLY FORMULATED Du Pont DUCO lacquer has the unique combination of properties needed to hold this cartridge of staples firmly together for easier, surer reloading . . . yet release staples instantly when stapler is used.

Staple lacquer that knows when to let go

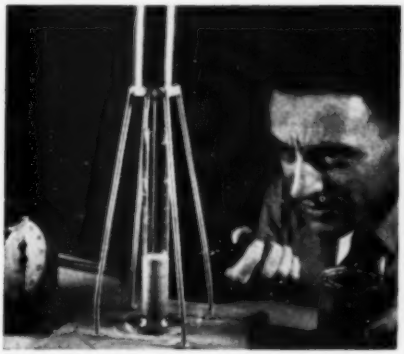
Perhaps you remember when reloading a stapler was a tricky business. Coping with a cartridge of several hundred staples that just wouldn't stick together properly usually resulted in lost time *and* lost staples. The reloads were slow, difficult, and costly to manufacture, too.

Coating the staples with a specially formulated Du Pont DUCO® pyroxylin lacquer cement changed all this. Now staples are held together firmly yet release freely. As a result, today's staplers are in universal demand, performing an ever-increasing variety of services more efficiently and economically.

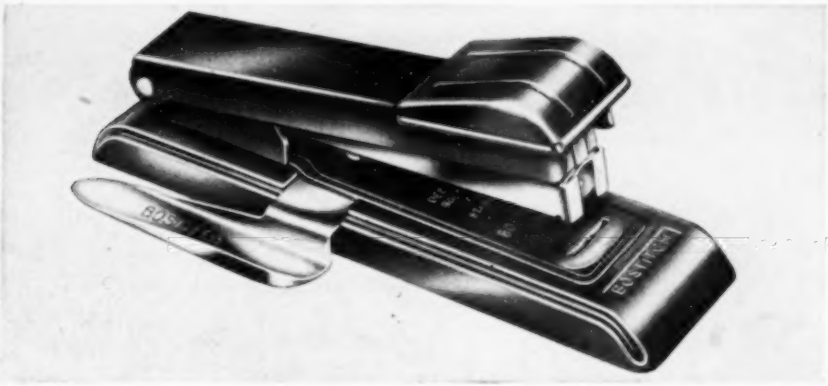
This success typifies the vital contribution the right application of a tailor-made Du Pont finish makes to the sales future of thousands of products. Perhaps a Du Pont finish can help you develop a new product—improve existing products—boost efficiency. Contact the Du Pont sales technician in your area, or write E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Wilmington, Delaware.



STAPLER PARTS coated with Du Pont DULUX® enamel resist hard knocks for years.



THIS DEVICE helps Du Pont chemists measure and control finish viscosity.



EYE-CATCHING BEAUTY of Du Pont DULUX enamels means added sales appeal for this stapler.

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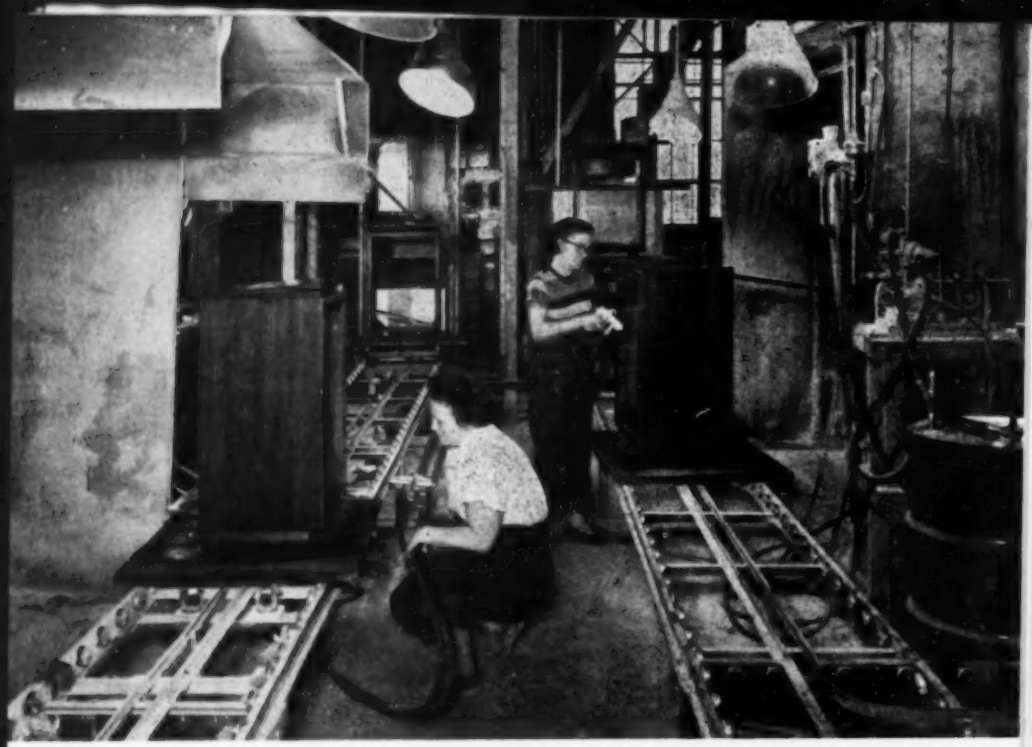
. . . *through Chemistry*

DUCO AND DULUX ARE REG. U. S. PAT. OFF.



Sealer spray booth is at left; top coat lacquer booth at right; "lifts" are in background.

HOW WE FINISH

Radio and TV Cabinets

BY WILLIAM L. HOGE, JR.
Vice President, Wm. L. Hoge & Co.

WE MANUFACTURE a variety of television and radio phonograph cabinets, and furniture. Over a year ago we installed a guided pallet conveyor, using a newly constructed balcony over part of our finishing room. This has proved to be successful; it has helped us to obtain increased production at lower cost, with more uniform quality.

Our Finishing Room is on Two Floor Levels

Both levels of the conveyor total something like 9000-sq. ft. of area,

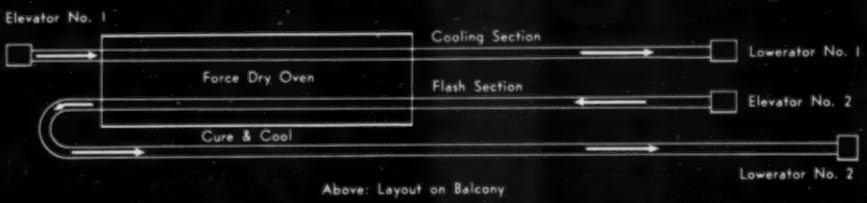
with about 60% of it on the first floor. All force drying of filler and top coats of lacquer, as well as cooling, takes place on the balcony. This arrangement leaves the first floor for productive operations and shorter drying cycles. It also provides more comfort for the operators during the hot summer months. With the force drying ovens and the cooling section up close to the roof, the heat can be carried off through vents.

The balcony is serviced by two pairs of automatic elevators and lowerators (elevators that carry loads down). Elevators are manually loaded by the last operator who pushes the pallet containing the cabinet or furniture from the stationary horizontal conveyor onto a similar section attached to the elevator. When the pallet is in its correct position the elevator motor is automatically started.

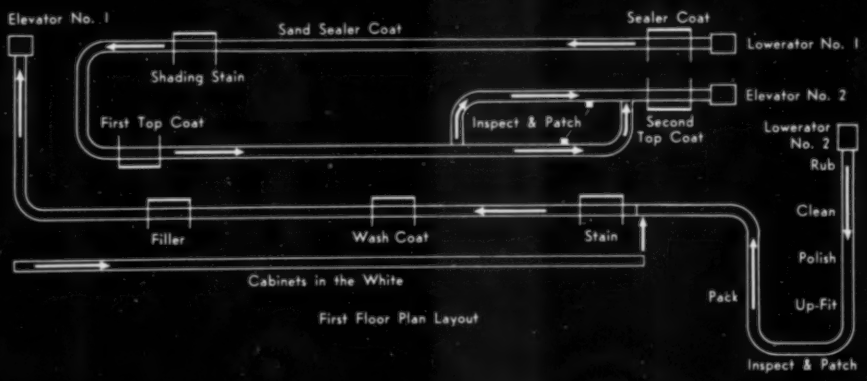
Force Drying on Balcony; First Floor for Production

Subsequently the elevator travels to the top level, unloads itself automatically, starts down, and returns to the lower level ready for the next pallet.

On the upper level the loaded pallet, which has just been released from the elevator, is automatically pushed forward a distance equal to its own width. This movement also pushes the whole "close pack" line forward the same distance (one pal-



Above: Layout on Balcony



First Floor Plan Layout

let width). This forward movement of pallets causes the pallet at the opposite end from the elevator to be pushed onto a lowerator.

When the pallet is completely on its carriage, the lowerator starts down automatically, stops at the lower level, unloads, and returns to the upper level ready to receive the next pallet. Through electrical interlocks, any movement of the lowerator at the wrong time, in relation to the elevator, is prevented. On the lower level, the movement of pallets is accomplished by operators pushing them, (and aided by gravity) after completing an operation.

Throughout the plant many time-saving and labor-saving devices are used. Rough lumber is handled in bundles by an electric crane which can lift as high as 30-ft. for efficient stacking. The rough mill is partially conveyorized, and machines are arranged for progressive operations in a straight line.

All exposed parts of cabinets are machine sanded twice, and most species of plywood are glue-sized. After assembly, the final fine sanding is done by hand and with portable machines. Following this fine sanding the surfaces of all cabinets are blown clean with compressed air, and then carefully inspected before being put on finish conveyor.

Stain, Wash Coat, Sanding

In the finishing room, cabinets are placed on the conveyor to proceed to the first spray booth. Here an NGR (non-grain-raising) stain is sprayed, the operator using an atomizing pressure of 35-lbs. and a fluid pressure of 8-lbs. A drying period of 45 minutes follows. Dry-

Filler is sprayed in booth at right. Pad-in, clean-up and inspection follow before cabinet is loaded on elevator (left background). Cabinets in the white were removed from conveyor in foreground to permit taking this picture. This conveyor takes cabinets to stain booth.

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LOS ANGELES, CALIF. BRIDGEPORT, CONN.

ing is aided by the use of a large ventilating fan which, during the cold months of the year, blows heated air through, across, and over the cabinets.

A clear wash coat is sprayed on the cabinets in the next spray booth. This wash coat consists of two parts lacquer sealer mixed with three parts of thinner. Atomizing pressure is 50-lbs. and fluid pressure is 6-lbs. The wash coat is allowed to air dry 15 minutes before the cabinet is scuff sanded with No. 6/0 sandpaper.

Filler is Sprayed on; Wiping; Clean-up; Inspection; Drying

Next, filler is sprayed on the surfaces of each cabinet, using an atomizing pressure of 25-lbs., and a fluid pressure of 15-lbs. After a short interval for the customary partial drying, the filler is padded-in with felt blocks and then cleaned off expertly with tow.

View on balcony level. No. 1 elevator is at extreme left. Here are both entrance and exit of force dry oven. The cabinet in left background is entering oven to dry filler. Cabinets at right are leaving oven after final coat of lacquer has been dried.

After the filler wiping, final cleaning-up and inspection, a cabinet is pushed onto the first automatic elevator which carries it up to the second level and unloads it onto the conveyor. This conveyor moves it into the force drying oven where it is moved forward only a pallet's width each time another cabinet enters the oven.

Filler is force dried for one hour. The heat at the entrance of the oven is 100° F., but this is increased to 125° F. in the last half of the oven. Relative humidity in this oven is maintained at 15%.

Sealer; Drying; Sanding; Lacquer Shading Stain if . . . .

Upon leaving the filler drying oven, cabinets cool for 30 minutes before they are mechanically loaded on the first lowerator which carries them down and unloads them onto a conveyor on the first floor. The cabinet enters a spray booth where a 21% solids lacquer sealer is sprayed at 50-lbs. atomizing pressure and 20-lbs. fluid pressure. The sealer coat air dries for one hour before the coated surface is sanded with No. 6/0 sandpaper.

After hand wiping and inspection, cabinets are given a coat of lacquer shading stain which is allowed to air dry for 30 minutes. On blond finishes, this operation is omitted.

Next the first top coat of 24% solids lacquer is sprayed at 60-lbs. atomizing pressure and 30-lbs. fluid pressure. This coat is allowed to

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- **LABOR SAVINGS UP TO 50%**
- **BETTER QUALITY CONTROL**
- **FINISHING AREA REDUCED UP TO 30%**
- **LESS PROCESS INVENTORY**

This may well sound incredible to furniture manufacturers still harnessed to conventional, inefficient finishing departments. Upwards of 100 large and small plants are now reaping these dividends through patented* DeBurgh Finishing Systems—engineered and installed by KOCH. GET THE FACTS NOW!

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GEORGE KOCH SONS, INC.

EVANSVILLE, INDIANA

air dry for one hour. Cabinets are inspected and any slight defects are patched or burned-in before they enter the second top coat lacquer booth. Here another coat of the same lacquer is applied. The cabinet is then moved to the second automatic elevator to go up again to the second level. Total flash time is 40 minutes before cabinets enter the force drying oven, where they remain for one hour at 100° to 125° F.

On leaving the lacquer drying oven, cabinets travel along the balcony for 1¾ hours to cool before they reach the second automatic lowerator which lowers them to and unloads them on a conveyor on the first floor. They are now on the rubbing and polishing line.

Portable air rubbing machines are used to rub the lacquer finish. The rubbing blocks are fitted with No. 360 wet-or-dry sandpaper. The lubricant consists of one part rubbing oil mixed with ten parts of mineral spirits. Machine rubbing is followed by hand rubbing with compound. Clean-up operations follow before cabinets are polished with a water soluble polish. Then cabinets proceed to the up-fit line where hardware, grilles, etc., are installed. Final inspection, patching and touch up are made where needed before cabinets are placed in cartons for shipment.

"National Affiliates" is Name of Sears Paint & Varnish Plants

National Affiliates is the name that has been selected by the five Sears paint factories to describe their cooperative efforts in the industrial field. This announcement was made by Mr. S. U. Greenberg, General Manager of Paint and Varnish Factories for Sears, Roebuck and Co., after a combined sales and technical meeting held at Benjamin Franklin Paint & Varnish Co., Philadelphia, following the recent convention of the National Paint, Varnish & Lacquer Association held at Atlantic City. The trade-mark selected for industrial products is "Naftek" which is a contraction of National Affiliates, Technical Products.

With the opening of the new multi-million dollar DeSoto Paint & Varnish Co. plant at Garland, Texas, the production and service facilities of National Affiliates are second to none, according to Mr. Greenberg. Each of the factories is strategically located to service all major areas of product finishing, and will retain its local identity.

Each plant is equipped with modern laboratory and production facilities plus qualified and experienced staffs for handling their individual formulating and local research problems. The technical directors and sales managers of these factories meet periodically to discusss their mutual problems and plan future activities. National research is carried on through a central laboratory located in Chicago.

The co-ordinating factories that will now operate nationally under the name of National Affiliates are:
Illinois Paint Works.....Chicago, Ill.
Benjamin Franklin Paint & Varnish Co. Philadelphia, Penna.
Carolina Paint & Varnish Works, Greensboro, N. C.
DeSoto Paint & Varnish Co., Garland Tex.
Pacific Paint & Varnish Co., Berkeley, Cal.

Spray Painting School for Maintenance Painters

Mr. Frank Foust, of the customer service division of the DeVilbiss Co., recently conducted a 2-week spray painting training school in Texas and Louisiana, with both classroom theory and on-the-job work entering into the program. A movie also was shown on the use, care and maintenance of spray painting equipment. Mr. Foust worked with Sline Industrial Painters, a firm that contracts for the painting of refineries and chemical plants.

In the 2-week training program, Mr. Foust taught spray painting techniques to 90 painters at on-the-job sites in the following cities in Texas: Texas City, Houston, Baytown and Baton Rouge, Louisiana and Lake Charles, Louisiana.

During his teaching tour, Mr. Foust reported that he had many opportunities to correct faulty methods and improper use of spray equipment. He suggested procedures to increase efficiency and speed.

THIS magnificent new laboratory, equipped with the latest and finest apparatus — and staffed by the most experienced research chemists — is the latest addition to Spruance expansion. There's nothing new about research at Spruance — except this recently commissioned building exclusively devoted to synthesis—analysis and development of quality finishes. Product control has always been paramount—and always shall be.

We invite you to put our facilities to work to solve any finishing problem confronting you.

THE GILBERT SPRUANCE COMPANY
PHILADELPHIA 34, PA. • WINSTON-SALEM, N. C.

Dry Chemical Fire Extinguisher

In Oct. 1953 issue, you have an article titled, "Are You Prepared for a Fire?". The article is written by Mr. H. Connelly. This article mentions a dry chemical-type fire extinguisher which is actuated by pressurized nitrogen. We will be pleased if you will inform us who manufactures this type of equipment.

In a letter we are naming seven companies and their addresses. Among them are Walter Kidde & Co., C-O-two Fire Equipment Co. and American-LaFrance-Foamite.—*Editor.*

Hospital Finish

We have just been awarded an order for chairs for hospital rooms, and have been asked to supply "Hospital Finish". We understand this finish must be unusually hard and able to resist various liquids that normally will soften a regular lacquer finish. Can you give us sources who can supply finishing material that would be termed "Hospital Finish"?—*D.L.*

In a letter we are naming several concerns who can probably supply what you want.—*Editor.*

We Have Webbing Lacquer

In Nov. 1953 issue we read an inquiry about Webbing Lacquer from "F Corp." This letter asked for a sprayable material to web across openings.

We produce a sprayable lacquer which webs, forming a coating quite porous across expanded metal lath, for instance. It dries quickly, providing a tough dry webby lacquer.

If this sounds like it might be of interest to you, kindly describe the details of your requirement so that we can submit, if possible, appropriate sample with information.—*H.V.H.Co.*

In a letter we are giving you the full name and address of "F Corp."—*Editor.*

Airless Spray Painting

I would appreciate getting a reprint or copy of the article "Airless Spray Painting of Farm Equipment," from August 1953 issue. In the event that this reprint is not available, any other informative copy on airless spray painting will suffice.

I am writing this request as a service to one of our accounts who has expressed interest in airless spray painting.—*L.P.&Co.*

Tear sheets of article sent.—*Editor.*

Automatic Conveyor; Cleaning

We are interested in putting in an automatic conveyor line to be used in the spraying of wood parts for school desks. Who could give us the information regarding this type conveyor?

One thing that we are concerned about is the deposit of overspray on the conveyor chains and parts. How is

STAINS GLAZES

For Application by All Methods

•

LACQUERS
SEALERS
FILLERS
ENAMELS
UNDERCOATS
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•

SPECIALTY FINISHES

Stains and Glazes to produce all modern or traditional colors with rare attractiveness. Specially formulated to give easy application with quick, dependable drying.

Industrial Finishes in Step with the Times

JAMES B. DAY & CO.

CHICAGO 14

this overspray removed when it gets thick on the chains and sprockets and other parts and will not let the chains work properly? Give us any idea you can.—*G. Equipment Co.*

For names and addresses of firms who can supply conveyors, see the advertising pages of any issue of this magazine. (In a letter we are naming several of them.)

Articles telling how to keep conveyor chains and hooks clean, appeared in March 1953 (page 109), March 1952 (page 30), Nov. 1951 (page 104), etc. Tear sheets of one of these articles are being sent to you. —*Editor.*

Hardware Paint Stripper

Can you suggest the name of any product that we could use to clean the hardware which we remove from furniture we are refinishing?

From time to time our customers order us to replace their own hardware and we would like to find some solution that will clean the brass without requiring buffing with a steel brush to remove the soil and dirt, and then buffing to polish it.

P.S. We would also like to know the names of concerns that make a clear lacquer which will resist charring of cigarettes and cigars. Mention of this was made in one of the articles in Nov. 1953 issue.—*F.R.&R.*

Information supplied.—*Editor.*

"Even if you are working in the drying oven department, I don't think that's quite the right costume!"

Heat Resistant Paint

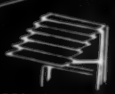
A short time ago I saw an article about a heat resistant paint called "Pyrolock". Where can I write to get more information about this and/or others pertaining to heat resistant finishes, such as would be used for tractor exhausts?—*I. C. & E.*

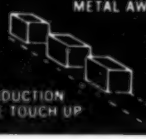
We don't find the name "Pyrolock" in our directories. Does any reader recognize it? In a letter we are giving names and addresses of firms who do supply coatings that are resistant to high temperatures.—*Editor.*

Electronic Heat to Dry

If possible I would like to get a back number of *Industrial Finishing*. The issue is of April 1944. If you cannot supply it, please let me know where I can get a copy of the article in that issue entitled, "Electronic Heat Dries Paint Coatings." I would also appreciate any information you can give me on books or articles relating to electronic drying of coatings.

We have recently gone into the production of steel tapes which are coated white after Bonderizing. I am at present using hot air recirculating type ovens to dry the paint and I am un-





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touch up your products anytime, anywhere... factory-perfect job every time!

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In use by industrial leaders in every field, the Sprayon Self-Spraying Touch Up Tool ends your touch up problems. Protect the eye-appeal of your product—get an extra bonus of customer satisfaction—and do it with big savings in time, cost and equipment investment! Sprayon goes right to your source for your own touch up finish, custom-loads the Tools for you under your own label. Exclusive Sprayon features mean even unskilled help do a factory-match job in minutes...for pennies. Use it anywhere—from your own production line to the final customer. Nothing else to buy—it's a disposable low-cost constant-pressure spray gun—a complete paint shop in a can!

WRITE TODAY FOR YOUR FREE "PUSH-BUTTON" FOLDER

SPRAYON PRODUCTS, INC.

2075 EAST 65 STREET
CLEVELAND 3, OHIO

SPRAYON *Self Spraying* TOUCH UP TOOL

able to contact anyone who has had experience in high frequency drying of coatings.—*E.J. (President & Chief Engineer.)*

Tear sheets of the article have been forwarded. We have no further information on this type of heat (heating the metal with electric current) for drying or baking paint coatings. Of course, infrared drying and baking are used extensively for this purpose. —*Editor.*

Lacquer; Abrasion Resistance

In the "Letters from Readers" in the December issue, a reader mentions clear lacquer with great abrasion resistance. You gave this reader sources of supply for this material. Would you please let us have these names? We are also interested in obtaining this information.—*J.J.H.*

Information furnished by letter.

"The paint sprayer boys nominated me Miss Strippable Coating of the year!"

Electric Conducting Clear

I am trying to find a transparent or translucent coating which is also an electrical conductor, but so far have had no success. Any information that you can supply, which might help us with this problem, will be appreciated. —*K. P., Australia.*

In a letter we are sending you names and addresses of firms who may be in position to supply what you want; we are not sure, since you want a clear material. Note: Please readers, does anyone have such a material? —*Editor.*

Peel-off Coating; Baking

We will appreciate your advising us the complete name and address of Chem.-Tech Industries, as we are interested in obtaining further information on their "Peel-Off" masking material which will stand baking, as per the article on page 80 of Oct. 1953 issue of *Industrial Finishing.—B.E.Co.*

This is only one of many inquiries for the same or a similar product—most of them having come in as a result of one or two published items in "Letters from Readers". We now have a list of concerns who say they can supply such a product. These names and addresses are being sent out in reply to the various inquiries received. —*Editor.*

To Prepare Aluminum

We have been advised by the National Paint, Varnish & Lacquer Association that you are publishers of the article, "How to Prepare Aluminum for Painting," by A. T. Thibadeau in *Industrial Finishing* for July 1953,

(Continued on page 81)

for color retention on light finishes-here is

CRYSTAL CLEAR LACQUER

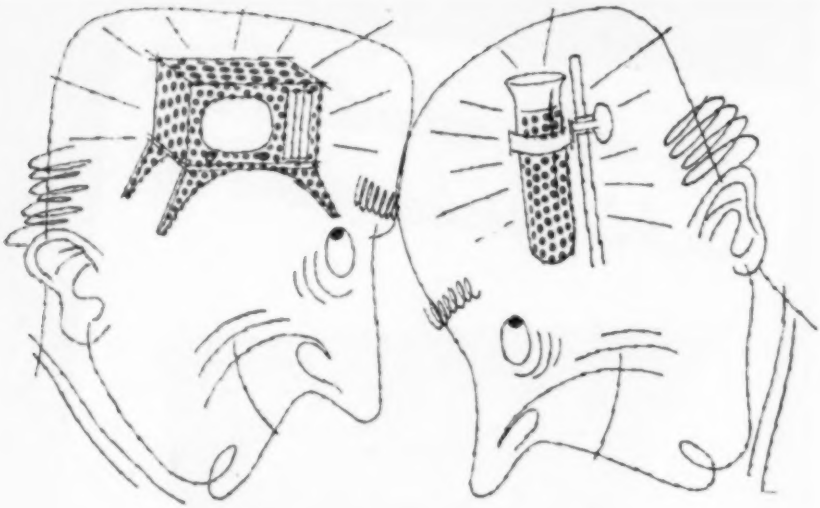
WATER WHITE

It's a new, time-tested material for preserving the original color of those beautiful grays, off whites, lime, pearl, sea mist, ermine and all pale, bleached and decorative effects so popular on furniture of today.

Crystal White Lacquer has excellent color retention, and it can be depended upon to protect the surface from the danger of discoloration due to exposure in the store or home.

A free working sample, together with finished wood panels showing the new colors, will be sent upon request. No obligation!

THE SCHAEFER VARNISH COMPANY
INCORPORATED
15TH AND MAGNOLIA LOUISVILLE, KY.



FINISHING PROBLEMS?

Let's put our heads together!

Picture the fellow on the left as your sales manager. He's thinking about the *beauty* of your finished product because he knows that sales start with the finish. And that's where we come in. We specialize in worrying out gloss, reflective quality, uniformity of color, flow characteristics, resistance to heat, light, salt, fog, humidity, corrosion and the hundreds of other problems that beset your finishing department. So, if you want an industrial finish *tailor-made* to solve your problems, give us a call. We'll get our heads together and come up with the right answer . . . fast!

JAMESTOWN FINISHING PRODUCTS, INC., Jamestown, N. Y.

Makers of

AVALEX lacquers, enamels, stains, varnishes and other industrial finishes

pages 60 to 68. This was reprinted in the Abstract Review No. 195 Special Circular, October 1953 issue. We would appreciate receiving a reprint of this article for our files.—*Monsanto.*

Tear sheets of article sent.—*Editor.*

Interested in "Plextone"

We are interested in obtaining further information about "Plextone" coatings, as mentioned on page 46 of Nov. 1953 issue of *Industrial Finishing*, and would appreciate your advising us the name and address of the manufacturer.—*D. W. Products.*

This is one of several inquiries on the same subject. The product is made and sold by Maas & Waldstein Co., an advertiser.—*Editor.*

Metal Preparation Folder

In your Nov. 1953 edition, on page 90, we noted an inquiry under the title, "Metal Preparation Books". The reader was seeking information on various methods for preparing metal for painting.

We believe that the 4-page folder on our product, "Econocote", will be of some interest to this reader. Briefly this material can be used in a single stage spray washer for both cleaning and phosphatizing.—*Metasurf Corp.*

Window Glass Coatings

On page 84 of Nov. 1953 issue, mention is made of several different types of window glass coatings. We wish to reduce glare and heat from the sun's rays. We now use draw curtains, but these soon become torn and dirty and they also require that the wall space be kept clear. Please forward any information which you have on this subject, together with the addresses of the manufacturers.—*Hope's Windows, Inc.*

This inquiry is typical of several we received after a letter on the subject was published; it aroused considerable interest. All of the inquiries (all from important companies too) have been answered, giving names and addresses of suppliers of such coatings.—*Editor.*

Electrostatic Spraying

In a recent issue of this magazine, we found an informative article on Electrostatic Spraying. As we are interested in this new process, will you kindly give us the name of the firm that has developed it and is now manufacturing the necessary equipment? —*U.M.&C.*

See the advertising pages of any issue of this magazine.—*Editor.*

Keeps Nozzles Clean

DO YOU know that some plants provide each spray booth with a 2-gallon bucket filled about half full with solvent in which spray guns are placed when not in use? The bucket has a metal strip soldered crosswise just below the top edge to support the gun with the nozzle pointing down. Solvent is kept at a level so that only the spray head is immersed. Also, in this bucket, there is a long handled bristle brush. A swipe of the brush across the business end of the gun keeps it in excellent condition, especially during intermittent spraying jobs.—*Steve.*

Model 400, orbital-action air-driven block sander being used for sanding sealer coat on television cabinets, on a high production line. This machine makes between 5000 and 6000 orbital strokes per minute, depending on the air pressure. A neoprene sponge rubber pad is being used in this photograph, though natural red sponge rubber pads, and felt pads can be easily interchanged. Photo, courtesy of National Air Sander, Inc.

Glidden's New Paint Plant in Atlanta, Georgia

Completion of one of the most modern and efficient paint and varnish plants in the U. S. was announced recently in Atlanta, Georgia, by the Glidden Company.

The Atlanta plant, 10th Glidden paint plant in the nation, was purchased by Glidden early in 1953. It has been entirely modernized and its capacity more than doubled. Glidden has also added an ultra-modern research and testing laboratory to its facilities.

Glidden's new Atlanta plant is located on a 10½ acre site ideally suited for expansion.

New facilities added by Glidden include a large, attractive office building and three new stock warehouses, as well as the new research lab and production equipment. The new offices, designed for maximum efficiency, are completely air-conditioned and incorporate the most modern concepts of office lighting. Adjoining the offices is a fully equipped cafeteria, which supplies warm and wholesome food for employees.

Production operations incorporate the latest principles of materials handling, with raw materials received at the highest of four levels. Gravity is employed to move materials to manufacturing operations at intermediate levels, with the finished products arriving at the lowest level ready for shipment.

The Atlanta paint plant is Glidden's second in the South. The first, at New Orleans, has been formulating finishes especially adapted for use in southern climatic conditions for more than half a century.

Carpenter-Morton Co. Opens a New General Office

The Carpenter-Morton Co., manufacturer of Carmote Paint products announces the opening of a new general office located at 376 Third St., Everett 49, Mass. This new general office consolidates sales and accounting services which were previously at two locations.

FURNITURE and CABINET MANUFACTURERS:

1954—A New Year brings new hopes; new resolves. A facing of the future, with a natural effort to peer through the curtain of tomorrow. Are we not more and more into the buyer's market? Must not sales efforts be increased?

Can we improve our positions by eliminating waste motion and streamlining our manufacturing to eliminate indirect labor and duplication of effort? Isn't it a year to strive for the best finish possible? We think it is, and have prepared a booklet on what we feel DeBurgh Conveyors can do for you.

Write for this free booklet. No salesman will call until invited. We are sure that we have something of interest for you.

Meanwhile, a Happy New Year!

DeBurgh Pat. Nos. 2317675, 2640580, 2640607. Canadian and Foreign Patents Allowed and Pending.

R. J. DeBURGH, Pres.

DeBURGH CONVEYORS, INC.

1741 "K" STREET

WASHINGTON, D. C.

HOT SPRAY LACQUERS

It is well-known, now, in most of industry concerned with finishing, that HOT SPRAY LACQUER has some outstanding advantages.

It covers better, dries faster, and is better adapted to conveyor-system spraying. All these features mean *lower finishing costs.*

ROCKFORD VARNISH is a first-class source for all types of Hot Spray Lacquers. Our laboratory sets rigid standards for formulation, using only the best of materials, and accurately prescribing the mixture to perform as you wish under the conditions in your plant.

Thus, from Rockford Varnish, you can be assured of top quality to suit your requirements. Give us the word on what you need . . .

Research, Quality, Service

Affiliate
GORDON BARTELS CO.
Roller Coating Specialists

ROCKFORD VARNISH *Company*
ROCKFORD, ILLINOIS
Manufacturers of Protective and Decorative Coatings

Exquisite

To be exquisite, said the philosopher, an object must be of outstanding quality as well as surpassing beauty. And where both quality and beauty are concerned, profit-minded manufacturers depend on a *fine finish* to enhance the product and insure its lasting attraction. To achieve these ends, many products demand a custom-coating that's tailored to individual requirements. The development of just such finishes is a specialty with Rockford Varnish Company, where laboratory technicians constantly solve coating problems for products of every kind. You can test the value of this service for yourself, by submitting a sample product for recommendation . . . . . .

Research, Quality, Service

ROCKFORD VARNISH *Company*
ROCKFORD, ILLINOIS
Manufacturers of Protective and Decorative Coatings

Affiliate
GORDON BARTELS CO.
Roller Coating Specialists

Wax Polish Harmful?

I would like to know if I am right or wrong about wax polish. I believe wax polish will crack the finish in time. Through my experience as a furniture finisher and repairman for 18 years I have asked customers if they used a wax polish (when I found the finish was checked) and nine out of ten said "yes". I'm not talking about a cold check. I have noticed that where people used less polish or none at all, the finish was perfect. So I want to know if I am right or wrong about wax polishes.—*A.J.*

I would not use liquid polish, as some of them may contain solvents that could be harmful to the finish—perhaps not if they were thoroughly wiped off immediately, but if they are allowed to remain on the surface too long before wiping or are not thoroughly and completely wiped off.

Paste wax polishes, used properly, will put on a better and more attractive thin wax coating. A good wax of any type will not crack a good quality finish. Sometimes moisture gets into the wood and will cause checking. I believe that the use of a good grade of paste wax, instead of cheaper liquid waxes, will solve the problem.—*F.*

Flow Coating; High and Low Pressure

Mr. P. C. Bardin, Associate Editor: We have read your editorial on page 52 of the Nov. 1953 issue of *Industrial Finishing*. However, we feel it necessary to take exception to two statements contained in one paragraph on the flow-coat method of application.

You state that "low pressure and high pressure systems of flow-coating have been definitely separated and established". This statement has been more or less of a plague to us for the past few months inasmuch as we are known as manufacturers of the high pressure system. Actually, we feel there is no difference between our system of applying paint from the standard system of stationary nozzles, inasmuch as *in both systems the amount of pressure applied to the nozzle is merely sufficient to get the paint to flow through the nozzle and onto the work.*

Our machines, which we call Automatic Paint Applicators, operate at pressures of from 3 or 4-lbs. up to 10 or 12-lbs., depending upon the type of work being coated. Competitive machines which, by the way, we also manufacture, operate within these ranges, also depending upon the type of work to be coated.

The second sentence in the same paragraph mentioned that a modern "flow-coater has been developed which really produces an atmosphere or fog of paint inside the applicator chamber to coat the product". Here again we must take exception to this statement because with our rotary arm paint applicator, we find that rather than producing a fog or a dense vapor, as is sometimes supposed, we actually merely break up the paint into large droplets through centrifugal action.

With the arms stationary, we find that the paint flowing with the type of nozzle we use, is actually a solid

...BEAUTIFUL SHEENS WITH

Perfection Synthetic Satin Finishes

HERE ARE A FEW OF THE PLUSES YOU RECEIVE FROM PERFECTION'S EXCLUSIVE PROCESS OF SYNTHETIC FLATTENING:

- A Clear, Rubbed Effect Finish
- A Waxed Feel
- A Water Proof Finish
- A Liquor Proof Finish
- A Tough Elastic Finish

Available in: PERFEX SATIN FINISH (varnish); CLEAR SHEEN SATIN (lacquer)

IF YOU MANUFACTURE FURNITURE, WRITE US FOR SAMPLES

Perfection PAINT & COLOR COMPANY

INDIANAPOLIS 2, INDIANA

stream—as solid through a piece of aluminum or copper tubing. Please note that the rotary arm method was devised: 1) to throw paint into areas normally inaccessible to the standard flow-coat machine and, 2) to reduce vastly the amount of paint pumped per minute. Both of these aims have been achieved in all of the paint applicators installed to date.

As an example, we have been able to coat the inside of folded edges on the interior of such appliance structures as washing machine shells and at the same time, in this machine, we are pumping approximately 15 gallons per minute whereas a standard flow-coat machine with stationary nozzles would require approximately 75 or 80 gallons to accomplish the same end.

Expecting that these few points explain our views on the published article, and that in some future date you will be able to make these facts known, we remain, yours very truly—*The Spra-Con Co., (O. L. Weis, Industrial Sales Division.)*

Anyone else care to comment on or contribute something to this subject? —*Editor.*

Glidden Plans More Expansion

Demand for the Glidden Co.'s industrial coatings and a ten-fold increase in Glidden's business in Canada have resulted in plans for a $1,000,000 expansion of the company's paint manufacturing facilities.

Biggest single project in the program is a new half-million-dollar paint plant to be constructed in Montreal, Canada. This will supplement the company's currently overtaxed unit in Toronto. The company also is working on plans for a new plant in western Canada and one in the Maritime provinces.

New facilities will be added to the company's Cleveland factory . . . . which will double that unit's production of synthetic resins and polyesters. Similar additions are contemplated for construction at the company's plants in Reading, Pa., its Nubian Division in Chicago, and its factory in Toronto.

Wiping Cloths or . . .

Our wiping costs run extremely high. At present, we are using washed diapers, but find that at times a shipment will contain a small degree of lint, which seems to be uncontrollable.

To overcome the cost and problem of lint, we have been experimenting with a paper product, the Scott Industrial wiper. Whereas the cost is much lower and the lint is non-existent, it has a tendency to scratch if not handled properly. Since our product requires a very delicate operation and a perfect finish, the few rejects that come through offset any saving that might otherwise be effected.

Can you suggest a paper product or any other inexpensive product that would meet the following requirements: 1) Great absorbency; 2) Non-scratching; 3) No lint; 4) Wet strength; 5) Enough strength to hold up when used in chemical solutions, such as ethyl acetate?

We manufacture high quality vanity sets. Anything you may be able to suggest will be greatly appreciated.—*A.Mfg.Co.*

In most plants today, there is no problem of what to use for wiping wood surfaces. For wiping stain and filler, most firms use old towels. A local towel supply company keeps them supplied with clean used towels. The towel firm's truck comes at regular intervals, picks up soiled "towel-rags" and delivers a supply of washed "towel-rags." Users of these "towel-rags" have no trouble with lint. If, after wiping the filler and in the clean-up operation any small balls of filler or lint remain, these are blown off with compressed air.

One word of caution should be observed when using any washed rags for wiping wood surfaces. Beware of caustic which sometimes is used by laundries on exceptionally "dirty"

You make it – We'll finish it!

Whatever your product, whatever your finishing problem — O'Brien can help you! O'Brien Sales Engineers and Industrial Paint Chemists, working together with O'Brien's complete laboratory and plant facilities, are developing and producing *top quality finishes for all types of products everyday!* Why not call on O'Brien to answer your finishing needs?

The O'Brien Corporation, South Bend 21, Indiana

rags. Too much caustic used, and not thoroughly rinsed out before drying, will play havoc with your finish. Most laundries who furnish washed rags to wood finishing concerns have had experience in this service, and they take extra precautions in rinsing so that the washed rags will not cause any trouble.

For wiping after sealer sanding, the best thing to use is a tack rag. These rags will not scratch; they will hold the dust to prevent it from flying and circulating around the room to settle on freshly coated surfaces. There is no substitute for tack rags for wiping sanded surfaces, wood or metal. —*P. C. Bardin.*

Lacquer Coat Lifts

For the past two years we have been trying to find the reason for our lacquer coat lifting into an exaggerated "orange peel" when applied over a lacquer-sealer base.

We are furniture refinishers, therefore all of our pieces go through a finish-removing process. Naturally, we have taken all precautions to obtain as clean and as wax-free a base as possible. The paint and varnish remover used here is of an excellent wax-free grade and our after-wash process is extremely thorough.

When we use shellac as a sealer (1½ to 2-lb. cut) there is no raising or orange-peeling, but the build-up is very poor, and the sanding is worse.

All of the material used in our shop is of the "good" to "excellent" price range. We have purchased and used enough lacquer-sealer samples to drown a good-sized horse, but all end up the same way.

The major offender seems to be the wood fillers, even though the filler is allowed to dry as long as 72 hours. Naphtha, white gas, turpentine and varnolene have all been used, but to no avail. The above problem is a major one, therefore any assistance you can give us will be appreciated.—*M. H.*

This trouble seems to be in the filler you are using. An oil-base type filler should not be used. Use a filler that does not contain oil. I have in mind a resin-base filler that will dry in 15 minutes at 120° to 130° F. It will air dry in a few hours, and its use will probably eliminate your trouble. Of course, the surface must be clean before applying the filler.—*F. Boynton.*

Raffi & Swanson Held 2-Day Sales Conference

Raffi & Swanson, Inc., of Chelsea, Mass., held a 2-day sales conference at the Winchester Country Club on December 18th and 19th. All of the company's key personnel from sales, research and production attended.

Mr. George M. Rideout, Vice President of the Babson Reports, Inc., spoke to the group on "The Business Outlook for 1954."

Mr. Charles L. Raffi, President and Mr. Martin S. Swanson, Treasurer, both addressed the group reporting the completion of a successful year and discussing the company plans for the coming year.

The principle theme of the meeting was the development and introduction of new product finishes. The individual round table conferences were led by James Raffi, Research Director; Richard Swanson, Purchasing Agent and Harold Duston, Sales Manager.

On Friday, the group visited the new plant at Wilmington, Mass., where facilities are being expanded in line with the future plans to consolidate all existing company operations at this location.

Mr. Louis Cavicke, the company's Chief Engineer, joined the R&S 25-year club and was presented with a Chelsea Ship's Clock at the final dinner.

PLASTISOLS

answers to problems

with PLASTISOL FINISHING

Only coating to pass 1500 hour water immersion test. Unichrome Plastisol coating passed manufacturer's requirements for use on moisture collector of refrigerators. All other coatings in test failed because of porosity.

Still going strong after 2 years. Until Unichrome Plastisol was used by a finisher on commercial dish washer drain baskets, no coating tried had ever withstood this severe service even that long.

Applied cheaper than rubber. Unichrome Plastisol Coating applied on conveyor hooks by automotive producer much faster and cheaper than rubber formerly used – and it lasted twice as long.

★ ★ ★

The reason for all this outstanding service? Baked at 350°F for 20 minutes, Unichrome Plastisols build up a tough, resilient, chemical-resistant, vinyl coating of from 3 mils to 3/16" thick that won't chip, crack, tear or corrode.

United Chromium has done vital pioneering work on plastisol coatings. It has developed the single coat primer needed to assure adhesion under toughest service conditions. It has been first to develop a practical, *sprayable* plastisol. Write us about *your* problem.

UNICHROME Trade Mark COATINGS for METALS

Metallic . . . . . Organic . . . . . Decorative . . . . . Protective

Products of UNITED CHROMIUM, INCORPORATED

100 East 42nd St., New York 17, N.Y. • Detroit 20, Mich. • Waterbury 20, Conn. • Chicago 4, Ill.
Los Angeles 13, Calif. • In Canada: United Chromium Limited, Toronto, Ont.

Flock; Dry Storage

THE room in which flock fibers are stored should be carefully selected and conditioned. Flock should always be kept reasonably warm and dry; otherwise it will mat together to form lumps or balls of fibers. These lumps or balls will cause trouble when the flock is applied to a wet adhesive coated surface, regardless of the method of application.

Fiber cartons of flock should be stored on wood shelves. If the flock is purchased in fiber barrels or drums, these should be placed on a wood platform raised about an inch off the concrete floor.

Most important of all, the temperature in the room should be continuously maintained at 72° F. or more at all times. The room temperature should not be allowed to drop during the night, on week ends or over holidays. Violent changes in temperature will likely cause condensation in the fibers which will defeat all of the other precautionary methods used.

Cartons and barrels containing flock should be kept tightly closed at all times. The outside of the container can be plainly marked to indicate the type, length and color of the fibers. Make it a point to have every container accurately labeled.

Let's keep this in mind too: While clean painted walls and floors may have nothing to do with conditioning flock fibers in storage, it is a mark of good housekeeping which is always desirable where fine finishing operations are performed.

TO ADD BEAUTY, COLOR AND SALES APPEAL
FOR CUSHIONING
FOR SILENCING

FOR A DURABLE PROTECTIVE COATING

INVESTIGATE *Cellusuede* FLOCK

THE PRODUCT FINISH *with* A THOUSAND USES

Every day product designers, industrial finish and material engineers are finding new, profitable uses for Cellusuede Flock—industry's most versatile product coating. With these cotton, rayon or hair fibers, you can add new beauty, color, and sales appeal to your product, provide a durable protective finish, silence noises, or dampen vibration. Best of all, the soft velvet-like Cellusuede finish is easy to apply to wood, metal, plastic, fabrics, leather, cardboard, or paper surfaces, either on a modified or production line basis. It's inexpensive, more durable than fabric, and readily available in a wide range of textures and beautiful colors. Investigate today the profit possibility of using Cellusuede for your product.

FREE BULLETIN—SAMPLES, TECHNICAL SERVICE

Write for 12-page bulletin illustrating profitable uses and applications. For help with a specific job, Cellusuede's technical service and unexcelled facilities are available for producing samples to meet your needs.

CELLUSUEDE PRODUCTS, INC.
Producers of Natural and Synthetic Flock
514 N. MADISON STREET • ROCKFORD, ILL.

"NOW HEAR THIS!"

Claremont Flock's worth checking into for linings, top surfacing, sound deadening and special types of insulation packing. Processed from quality rayon, wool or cotton, in colors, in standard or specified lengths. Why not write for samples and complete details?

CLAREMONT WASTE MFG. CO.
CLAREMONT, N. H.

CLAREMONT FLOCK
Quality-Famous!

J. C. Tansey Heads Glidden's New England Division

Mr. James C. Tansey has been made manager of The Glidden Co.'s New England Division, with headquarters in Cambridge, Mass. Mr. Tansey began his business career with The Glidden Company in 1945 as a sales trainee in Boston, following three years of service with the U. S. Navy. A year later, he was assigned to a trade sales territory in that division, and in 1946 was promoted to manager of The Glidden Co.'s Scranton (Pa.) metropolitan branch.

Changes in Du Pont's Finishes Division Announced

Changes in the production organization of the Du Pont Co.'s Finishes Division and a series of related appointments of personnel have been announced. The changes were made to meet growing demands on the organization with respect to both increased technical responsibility and efficient production of output.

Two new positions of assistant directors of production have been created . . . . Dr. Harold E. Goldsmith, assistant director of production since 1950, is now assistant director of production for technical activities, while Edward E. Furst, manager of the Toledo, Ohio, finishes plant since 1945, has been named assistant director of production for operations.

David G. Kennedy, manager of the Philadelphia finishes plant since 1944, has been appointed assistant to the director of production.

As a result of these appointments, several changes were made in management of Finishes Division plants. Norman I. Dress, manager of the Fort Madison, Iowa, plant since 1951, has succeeded Mr. Kennedy as manager of the Philadelphia plant. Fred E. Walter, assistant manager of the Parlin, N. J., plant, has taken the place of Mr. Dress as plant manager at Fort Madison. Robert J. Knake has been promoted from assistant manager to manager of the Toledo plant to succeed Mr. Furst.

Write for Catalog of
Paint Testing Apparatus
GARDNER LABORATORY
Bethesda 14, Md.

No-Glare Coating for Window Glass

RECENTLY, while on a service call to a plant, I had half an hour free time, so I walked around to see what was going on. I noticed several fabricating operations, and finally stopped to watch a workman loading an overhead monorail conveyor. The conveyor travel paralleled an outside wall composed principally of glass. It faced the southwest, and the sun shining through the glass created a glare as bright as a searchlight.

The conveyor loader was almost blinded while hanging work on the passing conveyor hooks. He managed to keep pace, loading every hook as it passed by, but it was definitely a struggle — and it seemed to me so unnecessary.

The plant superintendent stopped to chat with me, and I called his attention to the squinting loader. He admitted that it was difficult . . . . facing the blinding rays of the sun, but said that they couldn't afford to reglaze all of those sash with tinted glass.

Then I told him of visiting a plant where they had coated the outside surface of all glass on south and west exposures with a weatherproof, translucent blue coating which admitted over 90% of the natural light, and still removed the glare of the sun.

The superintendent admitted that he had heard of such a material but that he understood the coating cracked and peeled under the sun's

heat. I told him I had questioned the foreman at the other plant, and was assured that the blue coating had been on the glass for over a year without showing any signs of cracking or peeling; if or when desired, it can be removed with hot water and a stiff bristle brush.

The superintendent thought well of my suggestion and telephoned the neighboring plant for complete information. I am passing this on with the thought that others may be faced with the same or a similar condition. —*O.T.C.*

Job Shop Metal Finishers Meet in Chicago

The National Federation of Metal Finishers will hold its first Management Seminar at the Conrad Hilton Hotel, Chicago, on Saturday, January 30, 1954.

Meeting concurrently with the Chicago Branch, American Electroplaters' Society, Annual Educational Sessions and Banquet, the job shop group will present an all-day program featuring top-flight speakers on a series of Management topics.

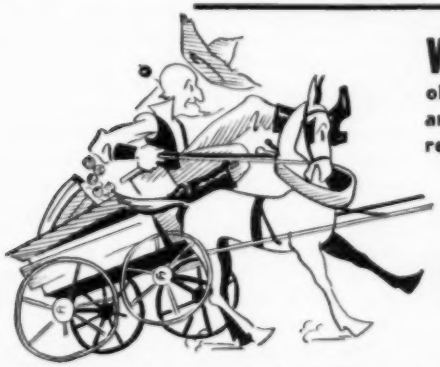
Invitations have been sent to owners and operators of metal finishing job shops, as well as to managers of finishing departments in manufacturing establishments. Greenwell reported that this first seminar is being sponsored by the National Federation of Metal Finishers as a service to the industry, and that no admission fees will be charged.

Webb Conveyor Branch Formed in England

Jervis B. Webb Co., Detroit conveyor manufacturer, announces the formation of Jervis B. Webb, Ltd., Bexley, Kent, England, with the following officers and directors:

P. L. Stonard, General Manager
E. W. McCaul, Chairman
J. C. Webb, Managing Director
W. Morrison, Secretary

This will enable foreign firms, or American firms with branches abroad, to purchase Webb designed and engineered materials handling systems with sterling instead of dollars. Control of specifications and standards will continue to be exercised at Webb's Eng. Dept. in Detroit.



WHOA! Don't be satisfied with old-fashioned and hazardous "horse and wagon" methods. Modernize and reduce stripping costs with . . . .

NON-INFLAMMABLE NON-INJURIOUS

ELECTRO COLD STRIPPER

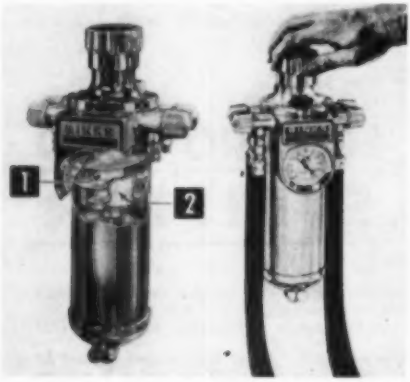
Removes hard baked-on enamels, primers, wrinkles, hammers, synthetics, japans, and 3M Scotchlite in seconds in most cases, and minutes in others. *The finish literally pops off!* There's no delay in getting metal items back in production when ELECTRO COLD STRIPPER is used.

It is safe, non-inflammable and requires no heat. Used by leading industrial concerns and Government agencies. TRY IT! Write for samples—or order 5 gallons at drum price.

ALLIED FINISHING SPECIALTIES CO.
2641 W. GRAND AVE. CHICAGO 12, ILLINOIS

Binks Oil and Water Extractor Has New Features

An improved oil and water extractor for use on spray painting air lines is announced by the Binks Mfg. Co., 3116 Carroll Ave., Chicago 12, Ill. The new AO-120 Extractor effectively traps all oil, water, rust particles and other foreign materials common to compressed air lines. This filtering action prevents impurities from reaching the spray guns and removes one of the major causes of rejects. It also puts an end to the clogging of air passages in the precision nozzles of spray guns.



Two views of Oil and Water Extractor. 1) Baffle that spirals incoming air down the tube . . . 2) Special double-action filter screens foreign matter; absorbs moisture.

The major improvements claimed for Binks' AO-120 Oil and Water Extractor are: 1) More efficient air cleaning; 2) easier operation; and 3) longer life and lower maintenance costs. Higher efficiency is the result of a combination of baffling and filtering. When air enters the AO-120 Extractor, it strikes a metal baffle and begins a fast spiral down the tube. As the air rotates, centrifugal force flings out of the air stream heavy particles of moisture, oil, rust and dirt. These drop to the bottom of the extractor for draining.

A new-type, re-usable filter not only screens out foreign matter, but also absorbs moisture and fluids. The manufacturer claims that the AO-120 Extractor operates efficiently on lines where the amount of oil and water has been too great for other extractors.

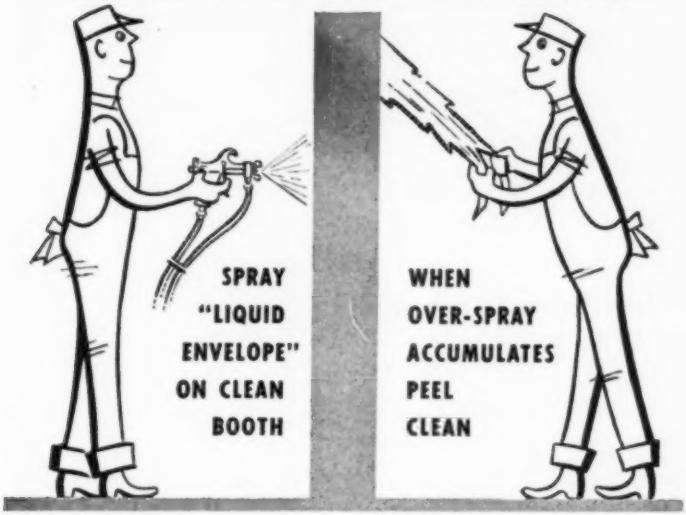
The fluted pressure-regulating knob on top of this extractor controls the setting of a pressure regulator within the extractor housing. To assure uniform air pressures of the spray guns, this regulator has a new-type, fast-acting diaphragm which instantly compensates for pressure fluctuations caused by operation of spray guns. The valve seat in the regulator is made of polyethylene; it cannot be damaged by oil, water or the usual solvents used with paints. An accurate, legible dial shows operating air pressure at a glance.

The combination of long-life features and details of construction contribute to lower maintenance costs. The inexpensive filter can be replaced easily or be washed and re-used. An automatic drain eliminates the human element and assures constant trouble-free service. Drop-forged construction guarantees sturdiness and greater resistance to corrosion. The control knob is made of tough metal to stand

easy way to keep booths clean

"LIQUID ENVELOPE"

STRIPPABLE PROTECTIVE PLASTIC FILM



That's all there is to the simple, labor-saving, inexpensive "Liquid Envelope" way to keep booths firesafe, better illuminated, better ventilated. Costs far less than the outmoded hand-scraping or grease-papering methods. ***New Users:*** Order a 5 gallon Test-Sample at the drum-lot price. Hundreds of steady users found out that way. Why not you?

BETTER FINISHES AND COATINGS, INC.

268 Doremus Avenue, Newark 5, N. J. • 122 East 7th St., Los Angeles 14, Calif.

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Aviation Lubricants Co., Inc., San Diego, Calif.
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Suppiee-Biddle-Stoltz Co., Philadelphia, Pa.
(Industrial Division)
Tanner and Co., Indianapolis, Ind.
Tri-State Spray Equipment & Compresser Co.,
Omaha, Neb.; Rock Island, Ill.
In Europe:
Jansen & Nicholson, Ltd., London, Eng.

up under constant wear and rough usage.

The AO-120 Extractor has four outlets—two for regulated air and two connected directly to the air line for blow guns or other air-operated equipment. Each of these four outlets is controlled by an easy-to-use air valve knob. This extractor provides ample air for two heavy-duty guns spraying continuously, and for operating two blow guns from the main line pressure outlets.

Readers of this publication may obtain full information about this new product by writing direct to Binks Manufacturing Company, 3116 Carroll Avenue, Chicago 12, Illinois. Ask for Bulletin AO-120.

High Flash Solvent Cleaners

Are you interested in solvent cleaners? Two solvent emulsion cleaners with an extra high flash point of 350° F. have been developed. Known as Navee '53 and Hi-Flash, both products have a constant high flash point that will not vary, even when heated.

Many solvents used for the removal of heavy greases and oils have to sacrifice fire safety for cleaning efficiency. The dual requirements of efficient maintenance and production degreasing and an extra margin of fire safety are available in these solvents. Both products are completely safe to use on aluminum and other soft metals.

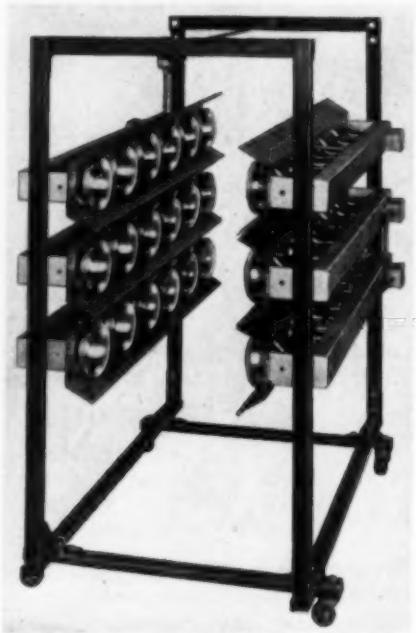
Navee '53 is an extra heavy duty degreaser for removing hardened, oxydized and burned-on oils and grease. It also removes carbon stains, lead oxide, packing grease, asphalt tar, resins, etc.

Hi-Flash is designed to remove drawing, cutting and lubricating oils, buffing and polishing rouges.

Full information on these solvents is available from The Penetone Co., Box IF 154, Tenafly, N. J.

Infrared Drying Setup Is Adjustable

Illustrated here is a basic size (2½x4x4-ft.) box-type infrared drying oven or tunnel offered by The Op-Al Electric & Mfg. Co., 809 N. Senate Ave., Indianapolis 2, Ind. It is



A safe drying or baking setup adaptable to a variety of work in metal shops.

portable and the banks of heat lamps are adjustable within a reasonable range. Other units, smaller or larger and with different numbers of heat lamps, can be made up special by the manufacturer.

One or more of these units can be set up to quickly dry wet-cleaned metal parts, or to bake the paint on racks of metal parts, or on parts moving along by conveyor.

Racked batches of painted small parts can be completely baked in from

Proper Finish

IS ALL IMPORTANT TO YOUR PRODUCT...

BARRETT skills produce superior:

- Furniture Finishes
- Wood & Metal Lacquers
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- Lacquer Enamels
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- Specialties of all Types

. . . because it is, why not let truly qualified experts suggest one that is perfect in every respect?

BARRETT VARNISH COMPANY has 83 years of experience in creating and producing industrial finishes of every sort; will be happy to offer their technical services so that your product may gain distinction of appearance through a superior finish.

Let our technicians tackle your finishing problems—no obligation, of course!

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a complete line of dependable industrial finishes since 1870

Mac's FASHION FINISHES

LACQUERS — Available in clear and opaque, for application to surfaces of all kinds. Spread easily and give good coverage. Any sheen desirable. Attractive, outstanding finishes.

SEALERS — Ideally suited as first coat materials under clear gloss or flat lacquers. Give good body and sand easily. Also, work well under varnish and enamel! Try them!

VARNISHES — None better! Whether for dull, satin or gloss effects, Mac's varnishes will be found most economical and appropriate as finishing coats on low, medium and high priced goods.

STAINS — These are stains of distinction, with an established reputation for the highest quality. We've been making them since 1875. Mac's stains can be supplied for every need.

FILLERS — The Mac's Fashion line includes the more commonly used oil paste fillers as well as the quicker drying materials of recent development. Keep abreast of the times with Mac's fillers.

PRIMERS — Mac's Fashion primers insure full coverage and absolute protection as first coaters on metal, forming firm and lasting foundations on products subject to severe treatment and abuse.

ENAMELS — For wood, metal and other surfaces, air dry or bake. Mac's Fashion enamels, properly applied, stand up under all conditions to which painted articles are subjected.

WOOD BLEACH — Mac's Fashion bleach will bleach all kinds of wood including mahogany. Dries overnight to a definite bleached effect ready to sand, and ready for the regular finishing schedule. Samples on request.

THE LAWRENCE-McFADDEN CO.

Write for Production Test Samples

7430 STATE ROAD PHILADELPHIA 36, PA.

Headquarters for Fine Finishes Since 1875

three to five minutes, affording a continuous flow from spray booth to the finished product.

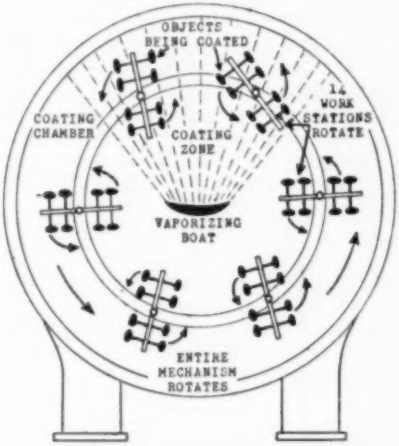
The steel strip plus aluminum skirt lamp housing assembly re-reflects heat generated in opposite banks. Practically no heat is dissipated in the wiring assembly, thus assuring indefinite performance of lamp holders and the wiring components.

Ovens are wired complete for operation on 220/240-volt, 3-phase circuit. Each oven frame has ball bearing casters for easy movement and is furnished with a 20-ft. connecting cable.

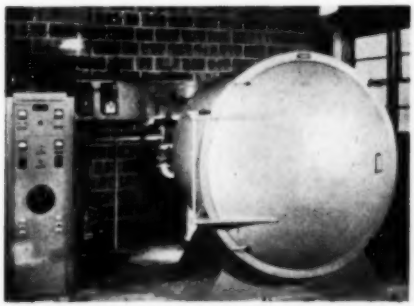
High Vacuum Metallizing of Silver, Gold, Copper & Al.

The High Vacuum Equipment Corp. of Hingham, Mass., announces the development of the first commercial high vacuum metallizing unit specifically designed to handle gold, silver, copper and aluminum coatings on a completely interchangeable production basis with equal efficiency.

The new unit features a removable interior mechanism constructed as shown in the accompanying drawing. Metal to be evaporated is held in resistance-heated "boats" on stationary rods that extend through the axis of the cylindrical chamber. Silver, gold, copper or aluminum which is evaporated from the "boats" disperses in an upward direction through an arc of 60° to 90°. The pieces to be coated are attached to six "riser rods" or work stations. As this entire mechanism is rotated, each of the six work stations are successively passed through the arc of evaporating metal and the work is coated. To secure uniform and complete coverage of the work, each riser rod is also rotated independently on its own axis, thus turning all sides of each piece toward the source of evaporating metal.



The drawing shows what happens inside the vacuum metallizing unit during operation.



High vacuum metallizing unit for coating many small articles with gold or silver.

Aluminum can be hung in clip form on ordinary resistance-type filaments without dropping off when heated because, in the molten state, it has the peculiar property of "wetting" the filament and clinging to it. Mounted in the center of the coating chamber, the evaporating aluminum disperses equally in all directions, coating all work pieces in every part of the chamber. It is then only necessary to rotate the work stations on their own axis to secure uniform coating coverage of the pieces. [*Cont'd on page 102*]

Gold and silver and copper, unlike aluminum, do not "wet" the resistance element and tend to drop off. Therefore these metals must be evaporated from molybdenum or tantalum "boats". When so held, the evaporating metal can disperse only in an upward direction. This means that only the work directly above the "boat" can be coated. Therefore only a fraction of the capacity of the chamber can be utilized unless a rotating mechanism is used.

Dark areas or spotty coating caused by molten aluminum dropping onto the work are completely eliminated by this new design, since the metal is held in "boats".

For many applications silver, copper or gold are preferable coating materials rather than aluminum. Silver, for example, when combined with lacquer and a dye, results in a better "gold" effect for jewelry and similar applications.

Release Coating Material

Release-Cote is a release agent for adhesive and coating equipment. It prevents adhesives, lacquers, resins, paints or other coating materials from adhering to the walls of pots, tanks, rollers, shafts, feed tables and other exposed surfaces.

Repeated tests show that this material reduces clean-up time because it prevents any build-up of adhesives on journals and side scrapers. When the adhesive dries it can be easily peeled off. Release-Cote can be applied by brush, rag, sponge or spray. At clean up time, coated areas may be cleaned with warm water.

Rubbing a small amount of the material on the hands prevents adhesive from sticking to the skin. There are no harmful irritants.

For further details write Potdevin Machine Co., 285 North St., Teterboro, New Jersey.

Single Cartridge Respirator

Pulmosan Safety Equipment Corp., 644 Pacific St., Brooklyn 17, N. Y., announces that its new chemical single cartridge respirator has the United States Bureau of Mines approval No. 2309 for all low concentrations of organic vapors. This new cartridge respirator is called Chemocart C256.

Removes Baked Enamels Fast; Is Non-Inflammable

Harstan Chemical Corp., 1247 38th St., Brooklyn 18, N. Y., announces the development of a new type of paint stripper. The stripper, No. 467, is especially designed to remove many of the organic finishes that have appeared in the last few years. It is equally effective on both baked and air-dried enamels and lacquers. It readily removes epons, baked enamels, wrinkles, vinyls, hammertones and some zinc chromate primers. No. 467 is non-corrosive and safe for use on all metals.

In keeping with its modern design, No. 467 is non-inflammable and is used at room temperature. It is so formulated that it is just as effective when only one gallon remains in the original drum.

Harstan No. 467 acts by destroying the adhesion between the base metal or wood and the organic finish, wrinkling away the paint in large pieces.

In operation a water seal is poured over the stripper to prevent evaporation. Depending on the specific gravity of the paint, the pieces of it either float directly under the water seal or fall to the bottom of the tank. In either case they do not interfere with

If you think you can't afford a paint circulating system, Here's News

● Ever say, "Our finishing operation just isn't big enough" . . . or "We can't justify a complicated, highly engineered paint spray system"?

The answer to problems like these lies in the basic simplicity of the new low-cost paint circulating systems perfected by Graco. First . . . Graco air-operated Paintmaster paint pumps work directly from original containers . . . 55 gallon drums or 5 gallon pails. *Drums do not carry pressure.* No messy, costly transferring. Paintmasters can supply up to 8 spray guns, in booths hundreds of feet from your supply room. The paint is continuously mixed by a separate air-driven agitator.

Installation costs are kept low by using economical, easily bent tubing to supply spray booths. Graco engineers can develop the best system for your particular operation. The famous Graco two-pump-per-color system (illustrated here) includes one Paintmaster to supply the system and one to prepare the next drum for simple, instantaneous changeover.

Graco low-cost circulating systems are handling as many as 48 colors! Let us show you what we can do for you. Write us today, and ask for Paintmaster Circulating System Literature.

GRACO

Paintmaster

GRAY COMPANY, INC.
13 Graco Square
MINNEAPOLIS 13, MINNESOTA

Regional Offices:
New York, Philadelphia, Detroit, Atlanta, Chicago, San Francisco

the action of the stripper and when large quantities accumulate they can easily be removed.

No after-treatment is required after stripping, other than rinsing in water or solvent to wash away the loosely clinging paint.

Harstan No. 467 is available in 5-gallon cans and 55-gallon drums. Samples and literature furnished on request.

Electric Radiant Element For Industrial Ovens

A new type electric radiant heater, said to emit rays in the far-infrared field, has been developed.

General applications of this heater include baking, curing, drying, plasticizing and other heat processing where temperatures of 400° to 500° F. are required.

A single heating unit consists of a fused quartz tube, 48-in. long, in which is encased a heavy duty nickel-alloy heating element. The element is completely sealed and supports its full length inside the rigid quartz body; it cannot sag, warp or stretch and cause short circuiting. Each heating element has an individual stainless steel reflector. Capacities of individual units range from 100 to 1000 watts per linear foot.

Heating unit is in a fused quartz tube.

The heaters are available in single units or multiple sections with various panel arrangements.

For further information, write Cleveland Process Co., 1965 E. 57th St., Cleveland 3, Ohio.

New Web Coating Sealer

A web coating material, which is applied with a spray gun and provides a tough, resilient seal against water and dust, has been developed by Presstite Engineering Company, St. Louis, manufacturers of sealing compounds.

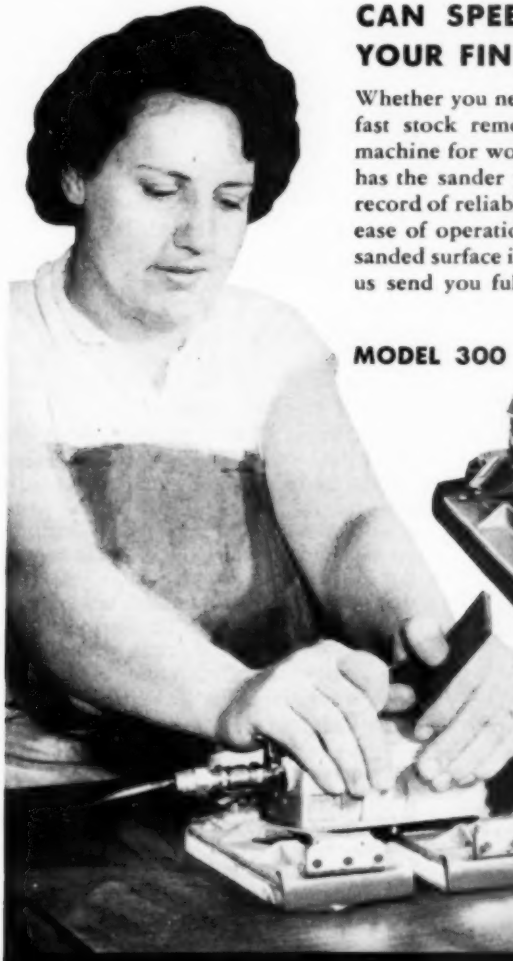
Known as Presstite No. 209 Cobwebbing Sealer, the material is used principally in automobile construction as a water and dust tight seal on inside door panels, such as on hinge and latch assemblies, and other interior body applications. It is described as being capable of bridging cracks and holes up to an inch across.

The coating developed is either a continuous film or a coarse cobweb-like skin, depending on the size of the spray-nozzle opening and the distance the gun is held from the surface to be sealed.

With a base of special synthetic polymers, the material is also highly resistant to oil, naphtha and aromatic fuels. In consistency, it is a medium-thin syrupy substance of translucent cream color. It dries quickly on contact and forms an excellent bond to commercially clean steel or aluminum. It is stable and flexible at all working temperatures.

The new web-coat sealing method is said to be faster, cleaner and simpler, offering savings on time and labor.

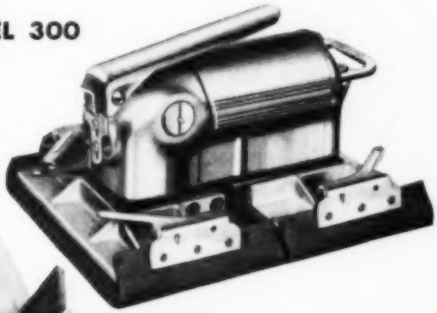
National Sanders



CAN SPEED PRODUCTION IN YOUR FINISHING OPERATION

Whether you need an orbital action sander for fast stock removal, or a straight-line action machine for working with the grain, National has the sander you need. They have a proven record of reliable and efficient service, long life, ease of operation, and for producing the best sanded surface in the shortest possible time. Let us send you full information . . . write today.

MODEL 300



NATIONAL NS SANDERS

NATIONAL AIR SANDER, INC.

2820 AUBURN ST., ROCKFORD, ILLINOIS

New Coatings for Plastics

Sullivan Chemicals Division of Sullivan Varnish Co., Chicago, announces the development of three basic coatings for plastic materials.

One series is for application on fabricated articles of Styrene, Royalite, Acryllic and certain types of acetate. A second series is for application on molded Polystyrene, and the third for application to the metallizing phase of plastic decorating.

Walter Hosek, research chemist for Sullivan Chemicals, reported that all three series of coatings can be pigmented or dyed to obtain any desired color tone.

Color cards are available by writing Dept. P C, Sullivan Chemicals Division, 420 N. Hart St., Chicago 22, Illinois.

Portable Air Compressor

A heavy duty ½-h.p. portable air compressor and electric motor is announced. Designated as Model 45, the unit features high output performance, quiet operation, and greatly increased ruggedness of design.

Delivers 4½-c.f.m. at 45-lbs. pressure.

With conservative loading of the heavy duty Nema 66 frame 1750-r.p.m. ball-bearing motor, the single cylinder compressor delivers 4½-c.f.m. at 45-lbs. pressure. Four new type replaceable valve assemblies contribute to the high efficiency of the unit; service is simplified in that the same valve unit may be used in either intake or exhaust ports. The unit weighs 72-lbs.

For further information, write the Sharpe Mfg. Co., 1224 Wall St., Los Angeles, Calif.

Vinyl Plastic Weatherproofs Ford Automobiles

A smooth-flowing putty-like Geon vinyl plastic used as a Ford automobile weather-sealant proves to be very effective in shutting out the elements, yet is easy to apply to the car during speedy assembly line production, according to Ford engineers.

The vinyl plastic, made from B. F. Goodrich Chemical Co.'s paste resin, is simply applied by means of air guns as the cars move along the production line. Assembly men standing on each side of the car shoot the heavy liquid-like Geon vinyl plastic into the drip-guard rail around the top of the automobile, around the windshield frame and along the trunk where any rain, snow, or dirt might leak past spot weld-seams into the car.

Especially formulated so that it will easily flow horizontally into the troughs without dripping on the body of the car, the plastic adheres to the bare metal body. The whole car body, including the vinyl plastic, is then spray painted with a prime paint coating and the plastic partially fuses during the subsequent baking operation. After being sprayed with a coat of enamel, the car goes through the final oven baking, which hardens the paint and completely cures the plastic.

After the Geon is fused it must stay

GET AMAZING SAVING

WITH A *GASWAY*
CONTINUOUS METAL
CLEANING—TREATING—
ROLLACOATING LINE!

KoolVent of Indiana is one of the many companies making amazing savings using Gasway Continuous Metal Cleaning, Treating and Rollacoating lines. Two men operating this continuous system convert raw aluminum strip, from two inches to twelve inches wide, to finished recoiled stock at the rate of 42 lineal feet per minute. *Both sides are coated at the same time with different colors on each side.*

Saving on paint is another great economy. In this particular operation one gallon of paint covers about six hundred square feet of aluminum with a film .001 thick, the amount required for extreme durability. This coated stock is then roll formed after finishing, tremendously increasing the speed of finished part production.

GASWAY CORPORATION

Write today for this story—
"How to Save by Coating Before Forming"

6463 N. Ravenswood Ave., Chicago 26, Illinois

pliable for many years so that it does not crack or break off during the life of the car. Geon vinyl resists the effects of hot and cold temperatures, oils, greases, acids, alkalies, and most solvents. It is the same type of material used in raincoats, tablecloths, shower curtains, upholstery, flooring, wiring insulation, garden hose, and aprons. Geon vinyls may be compounded to be rigid or flexible, translucent, opaque, or in any color.

Lightweight Explosion-Proof Hand Lamp

A new explosion-proof, rain-tight hand lamp that weighs only 4¾-lbs. is announced by Crouse-Hinds Co., 7th and North Sts., Syracuse, N. Y. The globe guard, globe holder and cord connector housing of the lamp are aluminum. The lamp receptacle housing is a light-weight high-impact molded phenolic composition. Phenolic bone fiber, another strong lightweight material, forms the lamp handle. This safety lamp has many other interesting features. For further information, write to the manufacturer.

Safe to use in any hazardous locations.

Sullivan Duo-Hammerite

Here is a tough, durable finish with unusual chemical properties, including acid resistance (not harmed by contact with fruit juices, etc.), and alkali-resistance which permits repeated washings without the loss of color or gloss. Its mar and scuff resistance are excellent, too.

Because of its remarkable hiding power, "Hammerite" is well suited for all grades of steel even with various flaws, sand castings that have been rough finished, and die castings with surface imperfections.

The unusual chemical and physical properties of this hammer-effect finish are largely due to the incorporation of "Shell's Epon Resin". A vehicle possessing excellent package stability is produced by combining this famous compound with a carefully controlled process formula.

Color retention is exceptional. Only the finest aluminum paste is used and tinting colors remain stable under heat and ultra violet light. The material can be stored for long periods of time without loss of storage stability.

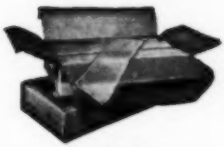
Duo-Hammerite is a product of Sullivan Varnish Co., 410 Hart St., Chicago 22, Ill.

Dry Chemical Fire Ex.'s

A new line of air pressurized Alfco dry chemical fire extinguishers is announced by American-LaFrance-Foamite Corp. of Elmira, New York.

For Dust Free Finishes!
BOND TACK CLOTH

IN ROLLS
Cut off any size piece to use as needed.



IN BULK
Cut and folded. Ready to use.

STAYS SOFT AND TACKY
A SPECK-FREE FINISH EVERYTIME

Now Available in Rolls or Cut Bulk—White or Gold.
In Three Different Types of Cloth

Get your Tack Cloth packed just the way it's easiest for you to use . . . either in 150 yard rolls of 36" wide cloth or in handy cartons . . . 100 or more Tack Cloths to the carton.

No matter which way you buy it, you can be sure that every square inch will stay SOFT and TACKY until the very last bit is used up!

The Cut Bulk size is 18" x 36" . . . folded to 4½" x 18" for ease of handling. ALL BOND TACK CLOTH is **Spontaneous Combustion Proof, Lint-Free and Wax-Free.** Gives a sparkling speck-free Finish every time. Clean and sanitary. No waste.

TRY THEM and COMPARE RESULTS.
Samples Gladly Sent Upon Request.

BOND CHEMICAL PRODUCTS CO.
"The Tacky Wiper Specialists"
2641 N. CLYBOURN AVE. CHICAGO 14, ILLINOIS

Also Individually Packed in Glassine Envelopes—144 to the Carton

A Warranty of Satisfaction in Every Carton

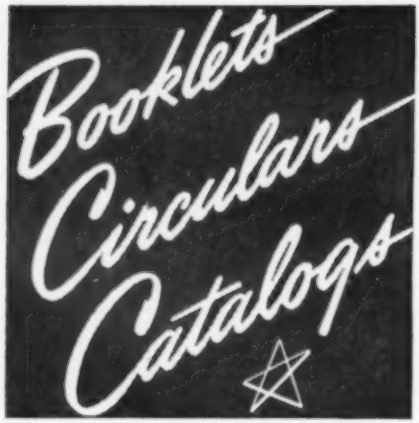
FUNCTIONAL FINISHES ! !

If you require your coatings to accomplish some specific task—something beyond mere ornamental appearance or average longevity—

TRY US!

We make ACRYLIC, ALKYD, CELLULOSIC and VINYLOID coatings for a very wide range of specialized industrial applications.

THE VARNISH PRODUCTS COMPANY
5206 Harvard Avenue Cleveland, Ohio



Electric Insulating Coatings

An informative folder about Dow Corning varnishes for coating and impregnating for electrical insulation purposes, is available to those who write to Dow Corning Corp., Midland, Michigan.

New Wet Blasting Machine

A bulletin describing its new Model 30 Liquamatte wet blasting machine, has been published by American Wheelabrator & Equipment Corp., 1144 S. Byrkit St., Mishawaka, Ind. Complete general specifications and illustrations are given.

Tall Oil Bulletin

K. A. Steel Chemicals Inc., 7450 Stony Island Ave., Chicago, Ill., announces the publication of an 8½ x 11-in. bulletin on tall oil.

The major portion of the bulletin is devoted to industrial applications for tall oils. . . . Write for a free copy of Steelco Bulletin No. C-53.

Bakelite Resin Coatings

An 8-page folder, "Bakelite Resin Coatings for General Industry," has been issued by the [illegible] Division of Union Carbide & Carbon Corp. This new folder discusses maintenance costs, extended service life and other merits these protective coatings afford construction, petroleum, chemical, food and transportation industries.

Copies of this new folder (VG) may be obtained from Bakelite Co., Division of Union Carbide and Carbon Corp., 300 Madison Ave., New York 17, N. Y.

Spray Nozzle Catalog

A new industrial spray nozzle catalog is ready for distribution. Thousands of standard and special industrial spray nozzles are illustrated and described. A free copy is available by writing Spraying Systems Co., 3201 Randolph St., Bellwood, Ill.

Fume Exhauster Bulletin

Ten different Torit exhausters are described in a new folder just issued by Torit Mfg. Co., 300 Walnut St., St. Paul 2, Minnesota. These exhausters will remove fumes, odors, gasses, etc. from industrial operations.

Bronze Powder Color Card

A new color card which shows thirty colors and finenesses of gold and copper bronze powders is now available. The color specimens were spray finished with lacquer as the vehicle. For a copy write Metals Disintegrating Co., Inc., Elizabeth 8, N. J.

Heat Control Bulletin

Bulletin F 6149 on Temperature Control Systems is now ready. A complete explanation is given of the various types of control systems, including where to use each system and what instruments are required for the best control results. For your copy, write Wheelco Instrument Division, Barber-Coleman Co., Rockford, Illinois.

Water Conditioning Book

The Water Conditioning Research Council, 111 W. Washington St., Chicago, Ill., announces the publication of a book, "What Is Hard Water," on the practical aspects of different classes of water supply. In layman's language, this book explains how the condition of water can be controlled to make everyday living more pleasant and less costly.

Hot Lacquer Painting Shown by Color-and-Sound Movie

A new 20-minute color-and-sound movie telling the story of industry's swing to hot lacquer is now available from Hercules Powder Co., Cellulose Products Dept., Wilmington, Delaware.

Plants of seven companies were visited and lacquer operations were filmed on

PHOTOGRAPHIC **silk screens**

FINE LINE OR HALFTONE. FOR ALL TYPES OF SURFACE DECORATION OR MARKING GLASS, METAL, TOYS, VITREOUS PRODUCTS, INSTRUMENTS, ETC.

WOOD GRAIN **silk screens**

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Specify **NEW PERIOD**

When a tough finishing job comes along, take a tip from the leaders and specify NEW PERIOD. You'll find the job becomes easy with this quality line of protection finishes.

- Fillers and Stains
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- Lacquers — Clear and Semi-Gloss
- Lacquer Enamels — Flat and Gloss
- Synthetic Enamels

Quality Isn't Just Luck

Write for 5 Gallon Working Sample at Drum Price

MANUFACTURERS OF FINE WOOD AND METAL PRODUCTION FINISHES

Established 1917

NEW PERIOD Production Finishes

NEW YORK WOODFINISHERS' SUPPLY CO., INC.

109 Imlay Street Brooklyn, N. Y.

the spot to produce this movie. Companies visited and products covered include: Besly-Welles Corp., machine tools; Douglas Aircraft Co., Inc., Navy fighter planes; Excel Body Corp., buses; Ford Motor Co., M-48 tanks; International Harvester Co., truck touch-up; Los Angeles Period Furniture Co., bedroom and dining room furniture; and Steinway & Sons, pianos.

The new movie illustrates advantages gained by the respective companies when they utilized the latest developments in lacquer techniques. A typical example is the sequence about Besly-Welles Corp., manufacturer of machine tools, which shows how they reduced their finishing operation from 13 to 6 stages through installation of a modern lacquer finishing system.

Rust Preventive Catalog

Just released by the Rust-Oleum Corp., 2799 Oakton St., Evanston, Ill., is a catalog on rust prevention. It includes 94 color chips of Rust-Oleum products and complete instructions for surface preparation and application of different primers and finishes.

Also included are the restful color group of finishes developed to provide new color harmonies for plant interiors and machinery surfaces. . . . .

Employe Information Booklets

A series of booklets for employe information racks is announced by the Ted-Howard Co., 1504 Broadway, Detroit 26, Mich. The specially prepared booklets are printed in color and are designed to deliver an interesting message. For example, the first pamphlet offered, "The Other Guy," deals with traffic safety.

Other subjects to be covered include, operation of American business system, hobbies, outdoor camping and living, child safety, citizenship, etc.

Mask Washing Machine Facts

Have you a mask washing problem? If so, send for the folder which contains details on a newly designed automatic mask washing machine for shop use. This machine has a solvent capacity of 50 gallons; it eliminates pump seals, so any solvent may be used.

The smaller unit, which has a solvent capacity of only 15 gallons, is adapted for cleaning small masks. It is desk height and can be placed near the spray booth.

These mask washers eliminate costly production delays in down time, and fire hazards. . . . .

For a free copy of this folder, write Conforming Matrix Corp., Toledo Factories Bldg., Toledo 2, Ohio.

Plastics Catalog and Handbook

A general plastics catalog and handbook featuring polystyrene rod, tubing and sheets, Tulox TT tubing, Tenite II rods and Tygon tubing and sheets, acrylic fittings, plastic covered steel and Interlox plastic splicers and channels and other shapes has been released by the Julius Blum & Co., Inc., Carlstadt, N. J.

Silicone-Based Coatings

Information about Silicone-based protective coatings for use in industry, their application and performance, is revealed in a copyrighted article of five typewritten pages, referred to as Data Sheet 7-100, and offered free by Dow Corning Corporation, Midland, Michigan. Branch offices of the company are located in Atlanta, Chicago, Cleveland, Dallas, Detroit, Los Angeles, New York and Washington, D. C.

Surface Finishing Bulletin

The story on the Metalblast process for controlled surface finishing is available in a 4-page 2-color bulletin issued by the American Metaseal Mfg. Corp., 607 65th St., West New York, New Jersey.

Photographs show how a pre-determined, consistent (bare metal) finish can be supplied to metal parts through the use of a special abrasive suspension applied to parts by means of air pressure. Special sections explain the variety of problems Metablasting can solve.

Examples of Screen Process Work from 1910 to Now

The Screen Process Printing Association has come into the possession of what is considered the most comprehensive collection of screen process work that exists.

This collection of more than 1,000 ads, serigraphs, signs, etc.—all done by screen process—was compiled by Bert Zahn of the Glidden Co., Cleveland, who is regarded as one of the pioneers of the screen process industry.

Mr. Zahn presented this collection to SPPA at its fifth annual convention which was held at the Hotel Statler, New York City, November 1 to 4. The material in the collection, which dates back to 1910, was originally gathered by Mr. Zahn as a hobby. But with the years, as the collection grew, it also became a record of the industry's own unique progress.

Mr. Zahn, in making the formal presentation of the collection to SPPA's board of trustees, noted that although the collection is one of his most treasured possessions, he felt that it could be put to better use by the Association.

Prevent Flying Dust; Tack Rag Wiping

MOST sanding operations are now performed under suitably controlled conditions, or they should be. Where wood products are made, sanding the surface in the white takes place outside the finishing room. But not all sanding is done outside the finishing room. In wood products there is the sanding of the sealer coat. In metal products the prime coat is often scuff sanded before the top coat is applied. Both of these sanding operations are generally performed in the finishing department.

Now in the necessary cleaning up after sanding, what happens to the dust? Does it blow about the room and finally settle on freshly coated work? Some firms insist on a blow-off with compressed air. If a blow-off operation is necessary it might be well to do this in a booth with the exhaust fans operating, or in any area where the dust can be exhausted instead of scattered about the room.

For wiping products, both wood and metal, after sanding, nothing will equal tack rags for preventing the wiped-off dust from flying into the air. Tack rags hold the dust particles instead of allowing them to escape and circulate. Tack rags are industry's cheapest insurance against flying dust from wipe-off operations.

Of course, other means of preventing dust from entering or flying around in a finishing room should be considered too.

GET BEST RESULTS... USE I. C. D. FORMULA NINE

the non-inflammable remover

for

- PAINT
- VARNISH
- LACQUER
- BAKED ENAMEL
- ADHESIVES

I. C. D. FORMULA 9 is safe and easy to use—simply spray or brush the remover on finish or coating to be cleaned and moments later the surface is ready for a new finish. Absolutely no after cleaning is necessary.

SAVES TIME · LABOR · MATERIAL

TRY IT YOURSELF—Order a trial gallon at drum price, today . . . test I. C. D. FORMULA 9 on that next tough job.

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INDUSTRIAL CHEMICAL DEVELOPMENT INC.

1110 13th Street North Bergen, N. J.

Industrial FINISHING Editorial

Volume Sales Demand Publicity and Push

Now that production has caught up with demand—that is in most lines of business—so that buyers can obtain what they want, either at once or within a reasonably short time, we may conclude that we are back to something like what used to be regarded as normal. This is what a lot of people have been hopefully looking forward to for a long time—although others have become so accustomed to riding the high tide of boom times and inflated values that anything less brings forth pessimistic talk and forecasts.

Let's take things in stride, and plan and act accordingly. Like our mailman for instance; he carries the mail cheerfully in good weather and bad, when the mail is heavy and when it's light. It's all routine with him; he doesn't complain nor worry. He will probably live a long time.

Concerns that are not infants in business, have been through ups and downs in buyer demands before. When the push and pressure of buyers clamoring for goods and services eases up, experienced well-informed executives know what to do.

Well managed firms take steps to attract and interest buyers, welcome them with courtesy, win their confidence, supply them with accurate and useful information, make it easy for them to buy, assure prompt deliveries and make certain that what they get is of unquestioned quality. These firms stand ready to replace or repair anything that is defective or damaged, and they even include follow-up service to keep every important buyer happy.

Along with this type of program goes well directed publicity, to place the firm's name and goods or services favorably before all present and prospective buyers and keep it there.

In a letter entitled, "How to Keep Advertising at Work," Mr. G. D. Crane of *Industrial Marketing*, writes:

"When advertising and merchandising are closely woven together . . . it's just as unthinkable to dispense with advertising as to fire the salesmen. They're a team—and a close-working, coordinated team which is producing the sales results management is looking for.

"The merchandising concept of advertising makes it play a more vital role in industrial selling; its effects are seen in greater drive applied to sales in the manufacturer's own organization and likewise on the part of his distributors and dealers and their salesmen.

"When advertising dollars work harder through their integration with a full-fledged merchandising program, the advertiser gets more for his money . . . because evidence of their profitable expenditure is constantly revealed in the profit and loss statement."

TOMORROW'S Products Tested TODAY

A service to aid industry in producing longer-lasting and better-looking products. Quick predetermination of durability and permanency by actual exposure test in South Florida. Write us today for full information.

SOUTH FLORIDA TEST SERVICE
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4201 N. W. 7th St. Miami 34, Fla.

It's practically

WATER-WHITE

a NEW chemically resistant baking finish—

DURACHEM

For all types of metal products from heavy hardware to fine jewelry

Here is a new baking type synthetic finish for metal parts that combines unusual clarity with a high degree of chemical resistance.

Product of Maas & Waldstein Co. research, DURACHEM is almost water-white in color—and retains its clarity even after prolonged exposure to heat and sunlight. It also protects metal parts against the effects of salt spray and perspiration.

Typical applications include builders' hardware, vanity and cosmetic cases, lipstick shells and pen caps.

Where decorative color effects are desired on metal, DURACHEM can be supplied in a range of colors with the same chemical stability as the clear finish.

Samples and technical literature are available on request. Or an M & W technical consultant will discuss your requirements privately with you.

OUR 78th YEAR
PIONEERS M&WC° 1876 IN PROTECTION

BOOKS
On Finishing Available

"MODERN ORGANIC FINISHES—Their Application to Industrial Products" (452 pages) new $8.50

"CHEMICAL FORMULARY" (Vol. IX) 7.50
(Preceding Volumes also available, same price)

"FINISHING METAL PRODUCTS"—2nd edition (352 pages) 6.00

"PRACTICAL FURNITURE FINISHING" (112 pages) 1.75

"FURNITURE FINISHING" (543 pages) 5.00

"SPRAY PAINTING"—Industrial and Commercial (169 pages) 2.50

"COLOR IN DECORATION AND DESIGN" (232 pages) 3.00

"THE MIXING OF COLORS AND PAINTS" (292 pages) 3.00

"WOOD FINISHING" (361 pages) 3.00

"NATIONAL PAINT DICTIONARY" (704 pages) 10.00

"MODERN POLISHES AND SPECIALTIES" (313 pages) 7.50

"GRAINING"—Ancient and Modern (224 pages) 5.00

"THE SILK SCREEN PRINTING PROCESS" (225 pages) 5.00

"SCREEN PROCESS METHODS OF REPRODUCTION" (252 pages) 4.00

"THE SCIENCE OF WRINKLE FINISHING" (204 pages) 5.00

"THE SCIENCE OF MODERN WOOD FINISHING" (386 pages) 6.00

"PAINT & VARNISH TECHNOLOGY" (509 pages) 8.00

"METALLIC AND NON-METALLIC COATINGS FOR GRAY IRON" (76 pages) 1.75

"PAINT FILM DEFECTS — Their Causes and Cure" (544 pages) 12.00

"INDUSTRIAL SOLVENTS" (764 pages) 12.00

"FINISHING MATERIALS AND METHODS" (320 pages) 4.00

Cash Must Accompany Order—
Send for Descriptive Circular

INDUSTRIAL FINISHING
1142 N. Meridian St. Indianapolis 4, Ind.

New Spray Techniques Demand Attention

★ While there have been vast improvements in industrial finishes in the last 25 years, there has been less progress, I believe, in the field of application of these finishes. Much of the progress made has been in the form of small improvements. Recently, however, a number of new techniques have been developed . . . . and it seems likely that a revolution is brewing in paint spraying methods. The modern spray setup of 10 or 15 years hence may bear little resemblance to the typical setup of today.

Some of these newer techniques are hot spray, airless spraying, steam spraying, flame spraying, and electrostatic spraying. All of these methods save paint by lessening or eliminating overspray.

The hot spray process, using paint that is heated before being atomized, has greatly expanded in use since World War II. One of its greatest advantages is that a heavier coating can be deposited per coat. A number of companies now sell hot spray units. Airless atomization carries the idea of hot spray further. Hydraulic pressures (300 to 600-p.s.i.) and high temperatures (160° to 220° F.) are used to force paint through a small atomizing nozzle.

Steam spraying utilizes superheated steam instead of air as the atomizing medium for the paint.

In flame spraying, plastic or metal powders are sucked through a hose into a pistol and are driven out through a controlled temperature flame onto

---

★ *Guest Editorial . . . Many readers can write an excellent editorial—two or three paragraphs that present a timely suggestion or valuable idea which will stimulate thought on a live subject. The Editor welcomes guest editorials and pays for those used.*

the object being coated. The powder is heated sufficiently in the flame to enable it to fuse on the coated object.

There are several methods of electrostatic spraying. Conventional spray guns may be used. A newer process, however, uses a cone-shaped spray head with no air pressure. A strong electrostatic field atomizes the paint, pulling it in a fine spray from the edge of the cone onto the object to be coated. Electrostatic spraying is useful in obtaining uniform film thickness and in coating edges and other areas difficult to cover.

It is impossible today to say which of these newer spraying techniques, either as they are today or with improvements, will eventually win a broad market. Perhaps other techniques not yet developed will be even better. It is obvious, however, that the field of spray application of coatings is moving ahead rapidly.—*E. V. Goldstein.*

Furniture, to Sell, Must Have Beautiful Finish

★ Right now and for some years to come, it certainly appears to anyone looking at the furniture retailing scene that *a critical buyers market is to be faced.* The problem of giving the buying public a product that is acceptable is becoming increasingly more difficult due to a multitude of circumstances. . . . Regardless of what has happened it is the final customer who holds the key of prosperity for the furniture industry—and the manufacturer who is in the position to meet the current exacting demands is the one who will continue to prosper.

The day has passed when beautiful cabinet woods are available at a reasonable price, so there is no use wasting time and energy on things that cannot be remedied. There are avail-

AGATEEN

BOWER BARFF
Period Black

A distinctive antique black simulating a Bower Barff Finish

Famous for ADHESION, DURABILITY and MILEAGE.

Minimum orders accepted.

Agate Lacquer Mfg. Co., Inc.
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Stillwell 4-0660-1

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COUNT ME IN...ON THE FINISH!

Detroit Handy "Tac" Rags remove all dust, lint and sand particles. Save time and materials. Avoid costly rejects. Ready for instant use. Never dry out or harden.

Order today from your supplier or send for sample

Standard of the FINISHING INDUSTRY Since 1934
DETRO MFG. & SALES CO., CULVER CITY, CALIFORNIA

2
QUALITY
LACQUERS
manufactured by
SCHWARTZ
CHEMICAL CO.
REZ-N-LAC
for STYRENE
NON-
TOXIC
VINA-PLAS
LACQUER
for VINYLS
SUPERIOR ADHESION
NON-CRAZING
FAST DRYING
REZ-N-LAC, for styrene, is a fast drying, high gloss enamel which is non toxic, non crazing and can't scratch off.
VINA-PLAS brings high lustre to vinyls and plastisols. Air dries in 5 minutes. Excellent adhesion. Easy to apply. Both products come in a wide range of colors. 1, 5, & 55 gallon sizes.
For descriptive literature write
Schwartz
CHEMICAL CO., INC.
328 W 70th St., New York 23, N.Y.
West Coast Distributor
Plastic Materials Supply Co.
Box 326 Temple City, California

able many woods from which sturdy merchandise can be manufactured in such a fashion that it will appeal to the public. Good designing and cabinet work are essential in quality furniture, but just these alone will not sell the article. The merchandise must be finished—and it must be remembered that the finish is the thing that has the biggest sales punch.

The entire future of the article is dependent on the finish. In the factory, finish means everything from color to the final clean-up after rubbing. Extreme care must be taken in the selection of color. Really the selection of a color should be a condensation of the thinking of all groups—designers, merchandisers, production, buyers, and finish technicians. A color must be compatible with the design; the application must be such that production can maintain uniformity in control—and at the same time it will have to meet the demands of merchandisers and buyers as to current trends. It is not wise to select colors haphazardly. The selection and application of coating material is equally important to all.

Improper application of coating materials can make the best cabinet work look bad. The selection of a coating material must be such that the build, depth of color, and sheen are in keeping with the design of the furniture. Proper selection of material will enhance the design and heighten the beauty of the wood.

Last, but by no means the least important, is the rubbing and clean-up operations. These operations control the appearance of the finish which, in turn, means the appearance of the entire piece of furniture. A poor rub job results in a messy looking surface and the lack of uniformity in the sheen of the finish. As a summary, it is evident that the finish sells the furniture, so be prudent in anything relative to your finish.—*X.*

How Three Troubles Were Remedied

RECENTLY I found myself listening to a finishing foreman who was "beefing" about the amount of work being pushed through his department. "Something is always going bad," he declared; "delay, delay, delay; then when production falls down, they call me on the carpet."

"Just what is it that goes bad?", I asked. He didn't hesitate a minute. "Well if it isn't some of the spray guns that clog up and sputter, a piece falls off the conveyor, and it's generally in the oven; and yesterday half the load on a truck about to enter the batch oven slid off on the floor. By the time the wet-coated pieces stopped rolling around, we had to strip 'em and do 'em over."

Fearing that he might continue indefinitely, I stopped him by asking, "Why do all of these things happen to you? Let's take them up in order. How often are the spray heads cleaned?"

"Whenever we change colors," he replied. Well it developed that sometimes they changed colors after spraying anywhere from one hour to two days, which often meant 48 hours insofar as the spray guns were concerned. No wonder they "clogged up and sputtered."

As for trouble No. 2, he finally admitted that the pieces which fell off the conveyor at a sharp turn in the oven was due to the loader using the wrong type hanger. "Sometimes in their rush they'll grab the wrong hanger; it's pretty hard to keep all

The Label of Distinction
seen in
Distinctive Finishing Rooms!

. . . for tops in quality and complete satisfaction

"Paint & Relax with TENAX"

TENAX FINISHING PRODUCTS CO.
NEWARK, N. J.

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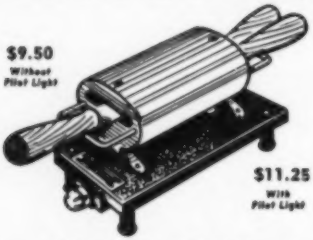

Patching Knife Heater

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Sold By All Leading Jobbers

THE OP-AL ELECTRIC AND MANUFACTURING COMPANY

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RANDOLPH PRODUCTS CO.

CARLSTADT, NEW JERSEY

of the hangers separated when they are piled there on the floor," he explained.

The reason that parts skidded off the tiered truck about to enter the batch oven was easily attributed to a chuck hole in the concrete floor. The regular oven loader, who was away that day, knew how to miss that chuck hole, but the man substituting for him just got behind the load and pushed along—and with disastrous results.

My foreman friend realized by his answers that he had discovered the cause of at least three of his troubles, and he set about correcting them. Now all spray guns are cleaned regularly after each shift, regardless of color changes. A handy bin rack on wheels is used to keep hangers separated for the conveyor loaders, and the chuck hole in the concrete floor has been filled and smoothed over with a prepared floor patch.

All plant troubles may not be solved so easily, but there is always a cause for every difficulty. Sometimes just talking it over will reveal the answer.—*J.E.C.*

Enthone Charges MacDermid with Infringement

In a suit filed in New Haven, Conn., on November 23, 1953, MacDermid, Inc., Waterbury, Conn., was charged with infringing a patent owned by Enthone, Inc., of New Haven, Conn. The patent covers a method developed by Enthone for stripping nickel as well as some other metals. The complaint in the suit charges that MacDermid, Inc., has been inducing metal goods manufacturers and electroplaters to infringe the patent and has been supplying a chemical composition for use in practicing the patented method.

The suit asks for an order of the Federal Court prohibiting MacDermid from continuing its practice as well as from selling any form of composition infringing the patent. It also asks for money damages caused by MacDermid's infringement of the patent since its issue August 19, 1953. The patent is No. 2,649,361 issued to Dr. Richard Springer and Dr. Walter R. Meyer, assigned to Enthone, Inc.

Explosion-Proof Electrical Fixtures

INDUSTRY TODAY makes and uses hundreds of different explosive or volatile liquids with which to clean equipment and to treat or finish metal products. Where these chemical agents are used you have an area made dangerous by contamination of the air with gases or volatile liquids which, if mixed sufficiently with the atmosphere and if ignited by a spark, can cause an explosion or flash fire. If close to such an area you have electrical devices that arc whenever they are turned on or off, the danger of explosion is multiplied ten times or more — unless your electrical equipment is explosion-proof.

Take the problem of fluorescent lighting in a location where inflammable vapors can't be kept out of switches, conduits or lighting fixtures without running up extremely high installation and maintenance costs. Relamping fluorescent tubes would be practically impossible. The answer to such a problem, according to Crouse-Hinds Co., Syracuse, N. Y., manufacturer of explosion-proof electrical equipment for hazardous locations is to allow electrical arcs to explode any vapors that seep into a lighting fixture. But, at the same time, the fixture must be rugged enough and precise enough to prevent internal flames from escaping through any of the fixture's joints (other than as cooled gases) to ignite the surrounding flammable atmosphere.

Standards for approving these de-

You Can Finish any Metal

BETTER for LESS

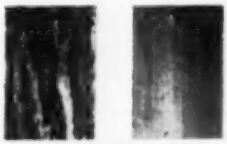
with

VINSYNITE PRETREATMENT

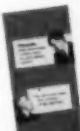
BETTER . . . because Vinsynite combines a chemical pretreatment with a thin film of organic coating. Result is superior adhesion and corrosion-resistance.

FOR LESS . . . because Vinsynite can be applied by ordinary painting methods. No expensive chemical control, heating, water baths or special equipment is required.

Vinsynite works efficiently on any metal. It makes finish coats last longer. Let us send you specific test data and case histories to prove it!



Effect of 500 hrs. ASTM salt spray on oleoresinous paint over bare steel (left); and same paint over Vinsynite (right).



SPECIALTY COATINGS, INC.
Division of
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vices are determined by Underwriters' Laboratories to meet the qualifications of classes I and II of the National Electrical Code. Class I deals with locations in which explosions or fires may occur because of the presence of explosive or inflammable gases or vapors in the air. Class II describes locations made hazardous by the presence in the atmosphere of combustible and conductive dusts.

The National Electrical Code describes the requirements, and Underwriters' Laboratories (through laboratory tests of its own) specifies the construction standards for electrical equipment used in hazardous locations. The purpose of the Crouse-Hinds Laboratory is to make certain that Crouse-Hinds products meet or surpass these standards . . . Remember: For an explosion three factors must be present: Air, a proper concentration of fuel, and an ignition source.

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SNYDER BROTHERS COMPANY

Manufacturers of Quality INDUSTRIAL LACQUERS

P. O. BOX 548 — TOCCOA, GEORGIA

Random Comment on the Industrial Scene

(Continued from page 8)

brush, then paint the surface with an asphalt emulsion coating. When this coat is dry, an application of asphalt base type aluminum paint will improve the appearance of the building. Such a coat will provide a cooler interior since the paint reflects the sun's rays.

* * *

Odor Neutralizer. Do you have unpleasant or offensive odors in your plant? There is a line of chemicals for neutralizing these odors. It is available in pint spray bottles with plastic or metal sprayer, in pint jars with reusable spun glass wick, and in tamper-proof white wall cabinets. The chemical can also be purchased by the gallon for refills.

* * *

Foil Nameplate. Metal nameplates called "Speedy-Cals," which can be adhered to curved as well as flat surfaces, are announced. They are made of thin foil and are laminated with a transparent bonding material.

These nameplates are available in gold, red, yellow, green, black, blue and clear aluminum. The manufacturer claims they will not crack, peel, chip or tarnish. They may be used for nameplates, trademarks, circuit diagrams, terminal designations, etc. It is possible to serialize them in any typewriter.

* * *

Plastic Storm Windows. Geon vinyl plastic film may be fastened on the inside of window frames to provide easy to install storm windows which give draft free insulation. This reduces heating costs.

Installation is simple. The complete

kit contains special tension brackets; thin metal strips hold the almost invisible plastic tightly to the window frame. They roll up and down like window shades.

* * *

More Aluminum. The United States aluminum industry continued its record-shattering growth during 1953 when it produced about 1,250,000 tons of primary (new) metal—more than in any other year in its history.

The aluminum story of 1953 is one of outstanding achievements in production, research, and development, as well as increased acceptance of the metal by both the general public and industry.—*Aluminum Co. of America.*

Sears Paint Production Conference

Mr. W. T. Butner, general manager of Pacific Paint & Varnish Co., Berkeley, California, was host to all Sears paint and resin production managers and other Sears paint executives during a series of production meetings held Monday, Nov. 30, through Wednesday, Dec. 2, 1953.

The meetings were opened by S. U. Greenberg, general manager paint, varnish and wallpaper factories, and then turned over to W. H. Lynch, newly appointed production co-ordinator. K. H. Johnson, production manager of Pacific Paint & Varnish Co., and other key personnel entered into the first phase of the meeting with a discussion of production methods at Pacific.

Others attending were: Messrs. H. L. Parker, plant manager, R. A. Sheridan, plant superintendent, Benjamin Franklin Paint & Varnish Co.; R. G. Brooks, plant manager, D. C. Smith, plant superintendent, Carolina Paint & Varnish Works; M. H. Warren, plant manager, G. A. Hehnen, plant superintendent, DeSoto Paint & Varnish Co.; C. G. Tilgner, pro-

Front row, seated, left to right: H. L. Parker, General Manager, Benjamin Franklin Paint & Varnish Co.; A. W. Slocum, Sales Manager, Illinois Paint Works; J. R. Dove, Central Laboratory, Chicago, Ill.; Truman L. Dahlberg, Jr., Sales Manager, John A. Steen Varnish Co.; S. U. Greenberg, General Manager of Paint & Varnish Factories; R. R. Jedlicka, Asst. Technical Director, Benjamin Franklin Paint & Varnish Co.; R. A. Prokop, Technical Director, Carolina Paint & Varnish Works; W. F. Rhoades, Jr., Technical Director, Pacific Paint & Varnish Co.; F. O. Vogenitz, Chief Chemist, Central Laboratory, Chicago, Ill.; W. Klinger, Technical Director, Benjamin Franklin Paint & Varnish Co.

Back row, standing, left to right: W. T. Butner, General Manager, Pacific Paint & Varnish Co.; William C. Nicoll, Technical Director, Illinois Paint Works; E. R. Schwab, Chief Chemist, John A. Steen Varnish Co.; F. W. Minner, Technical Director, DeSoto Paint & Varnish Co.; A. M. Holcomb, General Sales Manager, DeSoto Paint & Varnish Co.; W. G. Beauchamp, General Sales Manager of Paint & Varnish Factories; E. H. Bucy, Sales Manager, Benjamin Franklin Paint & Varnish Co.; R. G. Brooks, General Manager, Carolina Paint & Varnish Works; G. A. Nichols, Technical Director, Central Laboratory, Chicago, Ill.; R. C. Smith, Assistant Sales Manager, Benjamin Franklin Paint & Varnish Co.

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INDUSTRIAL FINISHING

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duction manager, J. R. Meehan, general foreman, Illinois Paint Works; A. Rozensky, plant superintendent, John A. Steen Varnish Co.; B. A. Malm, operating assistant, G. A. Nichols, technical director, and W. A. Ninnis, personnel manager paint and varnish factories, Sears Chicago offices.

The meetings covered all phases of production and material handling methods, housekeeping, laboratory and sales concepts related to production, plant safety, fire hazards, costs, and other data.

Oakite Assigns More Technical Representatives

Oakite Products, Inc., manufacturer of industrial cleaning and related materials, has assigned three new technical service representatives to territories.

Linden C. Watkins, for several years foreman of the plating and hardening division of the Remington Rand plant in Elmira, N. Y., is now the Oakite representative in Nassau and Suffolk Counties, Long Island, New York.

R. W. Krajicek, formerly with the Phillips Petroleum Co., and a graduate in chemical engineering from Gonzaga University, is now representing Oakite in the state of Montana.

Joseph M. Newey, a graduate of the University of Utah, has been assigned to serve metal accounts in the Salt Lake City area.

The new service representatives recently completed an intensive, 7-week training course at Oakite's New York headquarters and in the field.

Grand Rapids Varnish Corp. Expands Southeast Facilities

An expansion of the plant, warehouse, studio service and delivery facilities of the Grand Rapids Varnish Corp. in High Point, N. C., is announced by Howard C. Lawrence, president.

The consistently increasing acceptance, by the southern furniture manufacturer, of the finish styling service offered by the company has made this necessary, according to Lawrence.

Expansion includes enlargement of plant, warehouse, and studio facilities by a third, as well as additions to the personnel serving that territory.

Everett C. Bryant, associated with the company for 30 years and for the past 20 years its representative at High Point, has been appointed branch manager of the territory.

Clarence J. Moulton, for many years in a management capacity with the company in Grand Rapids, has been named sales manager for the Southeastern area.

In commenting on these appointments, Joseph A. Hager, Director of Sales, points out that both Bryant and Moul-

E. C. Bryant and C. J. Moulton

ton are well qualified for their new duties and responsibilities by reason of their experience and long years of service.

Recently the company incorporated the Grand Rapids Varnish Corp. of North Carolina which is a wholly owned subsidiary of the Michigan corporation.

In line with its desire to provide added service to its customers in the Southeastern area, the Company recently installed its own trucks to facilitate making deliveries to its southern customers.

L. H. Miller Now Represents Glidden in Los Angeles

Lowell Harrison Miller, well known for many years to industrial finishers, has been named a Pacific Region industrial representative in Los Angeles for The Glidden Co.

Mr. Miller's background in industrial finishes dates back to 1925, when he joined an automobile manufacturer as a paint chemist. Subsequently he served as chemist and paint engineer for other firms of nationally known reputation.

Four years in the technical sales department of a leading paint manufacturer helped round out Mr. Miller's rich background.

This wealth of information, accumulated during his years of work on some of the largest paint production lines in the country, should prove valuable to Los Angeles paint buyers.

Mr. Miller—known to his associates as "Ted"—will reside in Los Angeles and make his headquarters at the Glidden offices there, 4255 N. Produce Plaza.

Steel Surface Treatment

Steel Structures Painting Council, 4400 Fifth Ave., Pittsburgh 13, Pa., has published nine surface preparation specifications on solvent cleaning, power tool cleaning, blast cleaning, pickling, etc. These bulletins are offered at 25¢ each, or the complete set of nine for $1.00.

Also available are four pretreatment specifications on wetting oil treatment, cold and hot phosphate surface treatment and basic zinc chromate. The set of four may be had for 60¢.

Bakelite and Vinylite Booklet

The latest information about more than fifty Bakelite and vinylite plastics and resins, their properties and uses, is presented in the revised reference file published by Bakelite Co.

The 12-page 1954 Condensed Reference File of Bakelite and Vinylite Plastics and Resins contains 80 photographs showing applications and finished products. For your copy write the nearest sales office or to Bakelite Co., a Division of Union Carbide & Carbon Corp., 300 Madison Ave., New York 17, N. Y.

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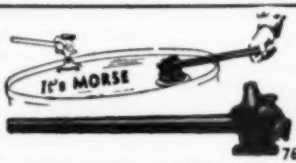

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Baer Brothers Bronze Powder Co., Inc., is New Name

After 66 years of successful and active manufacturing of bronze powders, under the name Baer Brothers, New York City and Stamford, Conn., the Baer brothers, now 81 and 82 years of age, have retired.

A new corporation has been formed as the successor to their Bronze Powder Division. It is headed by C. L. Johnson, President and Mr. Peter A. Frosco, Vice President. The manufacturing staff of the Bronze Powder Division stays intact . . . . the old reliable superintendent, colorers and the technical staff headed by the above Mr. Frosco, who has had more than 28 years of experience with a large bronze powder manufacturer.

The new company, since taking over the old establishment, has completely eliminated all of the old types of bronze powder machinery, and has installed the latest equipment for making the most modern and scientific bronze powders in the United States.

The company sincerely trusts that its many friends all over the United States, Canada and foreign countries will address mail to the new firm at 425 Fairfield Ave., Stamford, Connecticut, where prompt attention will be given to all orders and inquiries.

H. Behlen & Bro. Adds New Product, "Rugleam"

Mr. Herman Behlen of H. Behlen & Bro., 10 Christopher St., New York 14, N. Y., announces the addition, to his line of wood finishing materials, a new product called "Rugleam", a carpet cleaning material that works rapidly and effectively but leaves no lingering odor. The Rugleam business was purchased from McCann-Roy, Inc., New York 20, N. Y.

Rugleam is brownish in color, wettish in appearance, crumbly by touch (it's a solid) and contains no soap, detergents, oil or emulsifying agents; it cleans everything that soils a carpet.

CLASSIFIED ADVERTISING

The rate on ads appearing in this department is $1.00 per line of 6-pt. light face type, per insertion. Minimum charge, $5.00. Ads set in 8-pt. extra bold face type cost $2.00 per line, per insertion.

FOR HIRE — SALESMAN.

Experienced primarily in wood finishes and specialty items. Covering Penna., Md. N. J. Address IF-183, care Industrial Finishing.

FURNITURE FINISHERS WANTED.

Versatile man who knows fine work as coloring, glazing, laying leaf, etc., in small shop producing items for the decorative trade. Also young man with some basic experience desiring to learn finishing. Write full details of experience and salary expected. INVERNESS SHOPS, Madison, Indiana.

CHEMIST WANTED

By prominent manufacturer of complete line of industrial finishes located in NYC. Five figure salary plus profit sharing for an expert in product development and technical sales. Address IF-177, care Industrial Finishing.

CHEMIST WANTED.

A growing metal decorating company in Metropolitan Chicago requires an experienced chemist with full knowledge of this field. Man will be in charge of the laboratory, paints, lacquers, inks, quality control, standards, specifications and inspection. Send resume and interview will be arranged. Address IF-178, care Industrial Finishing.

CHEMIST WANTED.

A well-known industrial product manufacturer needs a senior chemist experienced in formulating and servicing metal deco coatings and appliance finishes. If you are qualified by experience in either or both fields you may find our compensation plan and working environment interesting. Wire or write IF-172, care Industrial Finishing.

PAINT PRODUCTION MAN.

Must have ability to supervise men and be capable of guiding color matcher and approving of colors. Salary commensurate with ability and experience. Located in Philadelphia. Write giving experience and personal history. Address IF-158, care Industrial Finishing.

FORMULATOR WANTED.

Opportunity for an experienced formulator of industrial enamels who wants to associate himself with an aggressive, expanding company in the field of organic product finishes. The man we are seeking should be capable of formulating and developing a complete line of industrial enamels, chassis blacks, Japans, metal decorating enamels, etc. Salary plus profit-sharing bonus plan. Address reply to M. A. Fritz, Vice President, ROBERTSON CO., INC., 1315 W. Kentucky St., Louisville 10, Ky.

SALES REPRESENTATIVE
Experienced, to handle complete line of lacquer products. Excellent opportunity for live wire. Drawing; commission. Address IF-176, care Industrial Finishing.

SALESMAN WANTED.
A large company in the eastern area of the country has an unusual incentive plan for a proven salesman in the field of metal deco coatings. If you have good sales knowledge in this field you may be interested in what we have to offer. Wire or write IF-171, care Industrial Finishing.

WANTED.
Industrial Finishes Salesman. Old established manufacturer of southern Ohio desires the services of a man of proven ability in the industrial field. Furniture and woodworking trade preferred. Compensation commensurate with ability to produce. Address IF-173, care Industrial Finishing.

SALES REPRESENTATIVES WANTED ADDITIONAL NEW ENGLAND, PHILADELPHIA, METROPOLITAN NEW YORK.
Experienced small, aggressively growing Industrial Finishes Plant able to back up sales on laboratory and production. Will consider salary and/or commission. Experienced men only. Completely confidential. Reply full resume. Address IF-179, care Industrial Finishing.

SALES REPRESENTATIVE
For industrial lacquers and enamels in Western New York state; experience desirable but not essential; excellent opportunity with manufacturer of complete line. Address IF-180, care Industrial Finishing.

SALESMAN—INDUSTRIAL FINISHES.
Experience in selling and servicing Industrial Finishes, wood and metal, important. Memphis, Tennessee, and surrounding territories available. We have well established lines to offer with efficient and prompt laboratory assistance. Appointment for interview may be obtained by writing or phoning the CHARLES R. LONG, JR. CO., Louisville, Kentucky. Cypress 4411.

WANTED TO PURCHASE.
Small paint or lacquer factory or jobbing business in Metropolitan New York. P. O. Box 84, Midwood Station, Brooklyn 30, New York.

WILL BUY BUSINESS AND/OR . . .
Prominent N.Y.C. Trade Sales Manufacturer wishes to acquire business, purchase or merger, moderate sized industrial finishes company. Replies confidential. Address IF-181, care Industrial Finishing.

WANTED.
Sludge overspray, etc. We reclaim. N.Y.C. Mfr. Address IF-182, care Industrial Finishing.

WANTED TO BUY.
Will buy your dirty Thinners and Solvents. Send samples or letters giving approximate contents and solids. Address THE JOHANN CO., 8547 S. Ashland Ave., Chicago, Ill.

SOLVENT CLEANING SERVICE.
Dirty lacquer solvent can be shipped to us for distillation and returned to you clean and ready for use. Within 200 mile radius of Louisville a substantial economy can be realized. Cost runs from 14c to 19c per gallon. KENTUCKY COLOR & CHEMICAL CO., 600 N. 34th St., Louisville 12, Ky.

WANTED.
White Overspray or Sludge—will pay top prices. Address IF-155, care of Industrial Finishing, Indianapolis 4, Ind.

FOR SALE.
570 gallons in 5-gallon cans, one coat hammer finish green for 300° bake on metal. Will close out at reasonable offer. NATIONAL PLASTICS CORP., attention: F. Kogut, Jeannette, Penna.

PAINT STRAINERS
For straining lacquers, enamels, paints. Made of heavy paper with cloth inserts in different meshes. 6-in. diameter conical shape. Write for catalog and samples. GERSON CO., Box 175, Mattapan 26, Mass.

FOR SALE.
One Koppel 55-gal. drum roller, good condition, explosion-proof motor, chain drive, $125.00. Also 40 used open motors ½ to 5-H.P., 220-V., 3-phase, guaranteed. $5.00 to $40.00 each. F.O.B. EASTERDAY PAINT & CHEMICAL CO., Racine, Wis.

FOR SALE.
Paasche Automatic Aircoating Unit with 45-ft.x3-ft. 6-in. conveyor with crossbars at 6-in. centers. Including: — 5-ft. Water Wash Spray Booth, exhaust and pump, 15-gallon pressure tank with automatic agitator, 38-ft. oscillating airbrush mounting and 8-ft. drying section with Selas infra-red gas burners. Now operating. Purchased in 1947, in excellent condition. THE BALL & SOCKET MFG. CO., West Cheshire, Conn.

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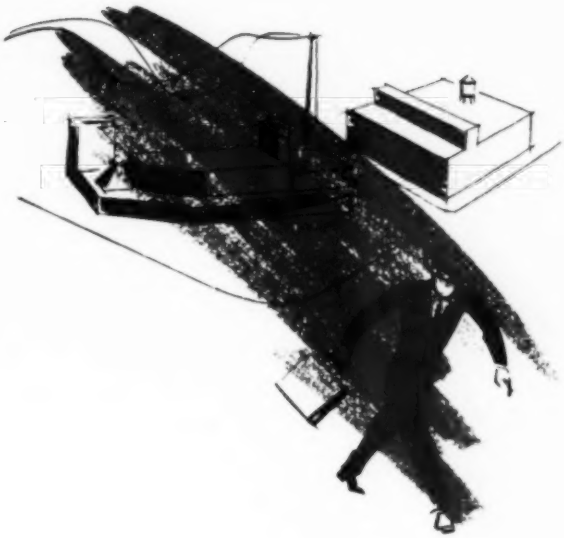

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All he asks is an opportunity to talk things over before the problems come up.

Each Advance service representative is a specialist in one or more phases of industrial finishing, with wide experience in the application of finishing materials to both wood and metal products.

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Advance PAINT COMPANY

Indianapolis Indiana

MANUFACTURERS OF INDUSTRIAL FINISHES

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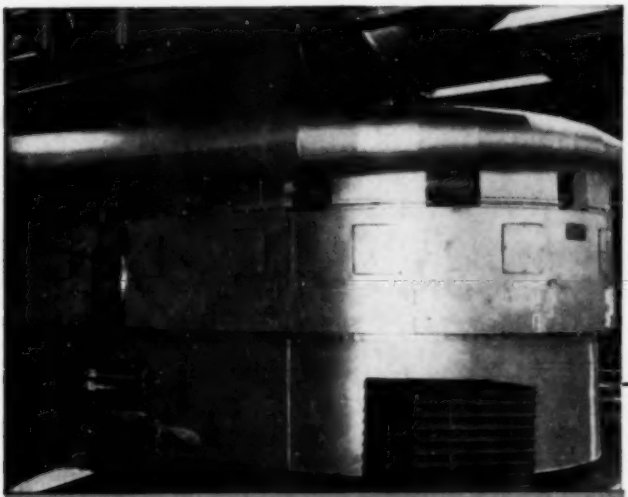
Saves 5 Ways..

1. REDUCES AIR VOLUME
2. LOWERS MAINTENANCE COSTS
3. CUTS REPLACEMENT COSTS
4. IMPROVES WORKING CONDITIONS
5. ELIMINATES DAMAGE TO OTHER EQUIPMENT

In large and small plants, Fume Control Systems engineered, fabricated and installed by KIRK & BLUM show substantial savings by increasing the life of costly plating equipment.

Here, a hood—with convenient access openings encircles the tanks — preventing cross currents and reducing air volume requirements.

Fumes are picked up at the outside of the tank, clean air is drawn over the machine's mechanism in the center, thereby keeping damaging corrosive fumes away from costly moving or mechanical parts.



KIRK & BLUM Fume Control on an Automatic Plating Machine in a noted auto ignition parts plant. Note hinged anode access and inspection doors just above tank top.

Write for Booklet F, showing typical installations.

The Kirk & Blum Mfg. Co.,
3131 Forrer Street,
Cincinnati 9, Ohio